



LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

Volume 5 | Map books

CFA24 | Birmingham Interchange and Chelmsley Wood
Ecology

November 2013

ES 3.5.1.5.24



Department for Transport

High Speed Two (HS2) Limited has been tasked by the Department for Transport (DfT) with managing the delivery of a new national high speed rail network. It is a non-departmental public body wholly owned by the DfT.

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EC-02 – Phase 1 Habitat (1:10,000)	<i>This map series shows Phase 1 habitat survey information for land required and in the vicinity of the Proposed Scheme at a scale of 1:10,000. Where it has not been possible to gain access for field survey, the information is based on available desk study and interpretation of aerial photography.</i>
EC-03 - Phase 1 Habitat (1:2,500)	<i>This map series shows Phase 1 habitat survey information for land required and in the vicinity of the construction of the Proposed Scheme at a scale of 1:2,500. Where it has not been possible to gain access for field survey the information is based on available desk study and interpretation of aerial photography. This map series is only provided at those locations where a larger scale is required.</i>
EC-04 – Amphibians	<i>This map series shows the results of amphibian surveys conducted to inform the Environmental Assessment. It principally details the results of great crested newt surveys conducted. In addition it shows the location of those 'exceptional' populations of common amphibians recorded.</i>
EC-05 – Bats – Roost	<i>This map series shows results of field surveys conducted to investigate the potential for trees and buildings/structures to support roosting bats. It shows the location of roosts confirmed by field survey and features identified as having a high or moderate potential to support roosting bats.</i>
EC-06 – Bats – Activity	<i>This map series shows the location of bat activity surveys conducted to inform the Environmental Statement. In addition it shows the location of the key bat foraging and commuting routes which have been established on the basis of the survey work conducted.</i>
EC-07 – Reptiles	<i>This map series shows the extent and results of survey work for common reptiles that has been undertaken to inform the Environmental Statement.</i>
EC-08 – Breeding Birds – Protected and Notable Species	<i>This map series shows records of protected/notable breeding birds that are considered most relevant in considering the impacts of the Proposed Scheme on breeding birds. The location of nest sites for species such as barn owl and raptor species which may be liable to persecution are not displayed.</i>
EC-09 – Wintering and Passage Birds – Protected and Notable Species	<i>This map series shows records of selected protected/notable wintering birds that are considered most relevant in considering the impacts of the Proposed Scheme.</i>
EC-10 – Phase 2 Habitat Survey	<i>This map series shows the extent of detailed habitat surveys undertaken to inform the Environmental Statement. The map shows the location of hedgerows that qualify as 'important hedgerows' under the wildlife and landscape criteria of the Hedgerows Regulations (1997).</i>
EC-11 – Other Protected and Notable Species (1)	<i>This map series shows the extent of protected species surveys conducted to inform the Environmental Statement.</i>
EC-12 – Other Protected and Notable Species (2)	<i>This map series shows the extent of protected species surveys conducted to inform the Environmental Statement.</i>

Mapping explanatory notes

Copyright statements

Copyright statements are presented in the data dictionary and definitions section at the front of the map book, due to limited space to include this on the individual maps themselves.

Ordnance Survey data

All maps produced as part of the London-West Midlands Environmental Statement (ES) contain Ordnance Survey (OS) data. HS2 Ltd uses the most up-to-date mapping available, where possible, supplied by the OS. As such, we cannot be held responsible for any inaccuracies within this data.

As part of our licence conditions, all digital maps carry a watermark.

Chainage

Most of the maps presented as part of the ES have a chainage value shown next to the alignment. Chainage is presented on the maps in black font, in the form of XX+YYY, for example: 77+000.

Chainage (known as reference chainage) is referenced from Euston station, which is 0+000, and the value presented is in metres. For example, 77+000 refers to the point 77,000m, or 77km, from Euston station. Chainage values increase in intervals dependant on the map scale. For maps at 1:50,000, scale chainage is shown at 5km intervals. For maps at 1:25,000, scale chainage is shown at 2km intervals. For maps at 1:10,000, 1:5,000 and 1:2,500 scales, chainage is shown at 1km intervals.

Chainage has been included on the maps as a useful tool for comparing map sets showing the different environmental themes or engineering plans, due to map sets having different scales and therefore showing differing amounts of alignment on the map.

Map orientation

The majority of the maps presented in these map books are presented with the railway alignment running horizontally across the page. The direction of travel to London would be following the alignment to the right hand side of the page, and the West Midlands to the left.

The exceptions to this are map series LV-02, LV-03, LV-04, LV-07 and LV-08, which present the alignment running from the bottom to the top of the page. This is to allow more of the modelled outputs to be shown at the appropriate map scale. In this instance, the direction of travel to London would be to the bottom of the page, and the West Midlands to the top.

Map books

There are a total of 76 map books in the ES, spread across Volumes 2, 4 and 5. A list of the titles is provided in the table below for reference.

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Volume 2 Map Books Community Forum Area: 01 Euston – Station and Approach	Volume 5 Map Books: Ecology – Community Forum Area: 05 Northolt Corridor
Volume 2 Map Books Community Forum Area: 02 Camden Town and HS1 Link	Volume 5 Map Books: Ecology – Community Forum Area: 06 South Ruislip to Ickenham
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Volume 5 Map Books: Agriculture, Forestry and Soils	Volume 5 Map Books: Socio-Economic
Volume 5 Map Books: Air Quality	Volume 5 Map Books: Sound, Noise and Vibration – Euston and London Metropolitan
Volume 5 Map Books: Community	Volume 5 Map Books: Sound, Noise and Vibration – Country South
Volume 5 Map Books: Cultural Heritage – Euston and London Metropolitan	Volume 5 Map Books: Sound, Noise and Vibration – Country North
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LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

Data dictionary and definitions

Data dictionary and definitions

Legend features	Definition	Source	Copyright
250m radius from all water bodies where presence of Great Crested Newt is confirmed.	250m radius from all water bodies where presence of Great Crested Newt (GCN) is confirmed.	High Speed Two (HS2) Ltd	
50m radius from all water bodies where presence of Great Crested Newt is confirmed.	50m radius from all water bodies where presence of Great Crested Newt (GCN) is confirmed.	High Speed Two (HS2) Ltd	
500m radius from all water bodies where presence of Great Crested Newt is confirmed.	500m radius from all water bodies where presence of Great Crested Newt (GCN) is confirmed.	High Speed Two (HS2) Ltd	
Activity transect route	Transect route that was surveyed during bat activity surveys.	High Speed Two (HS2) Ltd	
Ancient Woodland	Ancient Woodland Inventory. Ancient Woodland is land that has had continuous woodland cover since at least 1600AD.	Natural England	© Natural England copyright 2013. Contains Ordnance Survey data © Crown copyright and database right 2013. All rights reserved. Ordnance Survey Licence number 100022021. http://www.naturalengland.org.uk/Images/open-government-licence-NE-OS_tcm6-30743.pdf
Aquatic invertebrate: Aquatic invertebrate survey location	Location of aquatic invertebrate survey.	High Speed Two (HS2) Ltd	
Areas isolated by significant barriers to amphibian movement	Areas isolated by significant barriers to amphibian movement.	High Speed Two (HS2) Ltd	
Assumed key area of foraging habitat	Likely areas of bat foraging habitat for local bat populations, derived from bat activity survey results.	High Speed Two (HS2) Ltd	
Assumed key commuting route	Key commuting and foraging bat routes that have been identified by an ecologist after review of available survey data and application of professional judgement.	High Speed Two (HS2) Ltd	
Bat activity static detector location	Location where bat activity static detectors were used during survey period.	High Speed Two (HS2) Ltd	
Biodiversity Alert Site (BAS)	<p>Local wildlife sites in Staffordshire are Biodiversity Alert Sites (BAS) and Sites of Biological Importance (SBI). BAS are local wildlife sites and are of lower intrinsic quality or have suffered damage or disturbance. Nevertheless, they collectively form a significant part of Staffordshire's nature conservation resource, and, in some cases, a valuable reserve series for some of the SBI.</p> <p>The BAS information is reproduced from, or based upon, information supplied by Staffordshire Ecological Record (SER) and reproduced with the permission of the SER Partnership. Individual records within the data are copyright their original recorders and provided under licence via SER.</p> <ul style="list-style-type: none"> - All data supplied by SER is to the best of SER's knowledge correct at the time of production. However, the precision or accuracy of SER data is usually based upon the original information supplied by the recorder and although SER strives to ensure all records are checked and validated, SER cannot be held responsible for any errors or omissions - The presence of a marked boundary within SER information does not infer any right of public access. 	Staffordshire Ecological Record	Copyright © Staffordshire Ecological Record Partnership, (2013).
Biological Notification Sites (BNS)	Biological Notification Sites (BNS) preceded Local Wildlife Sites as a local non-statutory designation. They were first designated in the late 1980s and have since been revised. There are no formal citations and for	Buckinghamshire County Council, Buckinghamshire and Milton Keynes Environment Record Centre (BMERC)	Based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown

Legend features	Definition	Source	Copyright
	some sites we have no survey data.		Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Buckinghamshire County Council Licence No. 100021529, 2012. Copyright Buckinghamshire County Council.
Breeding birds - protection status: Species listed on Annex I of the Birds Directive Species listed on Schedule 1 of the Wildlife and Countryside Act Species listed on Annex I of the Birds Directive and Schedule 1 of the Wildlife and Countryside Act Species listed on Birds of Conservation Concern list relevant to assessment – See Volume 5 Appendices Other notable species relevant to assessment – see Volume 5 Appendices	Field survey records of selected protected and/or notable breeding birds that are considered most relevant in considering the impacts of the Proposed Scheme on breeding birds.	High Speed Two (HS2) Ltd	
Breeding birds - survey extent	Area where breeding birds survey was conducted.	High Speed Two (HS2) Ltd	
Community Forum boundary	The Environmental Statement has been split into 26 sections called Community Forum Areas.	High Speed Two (HS2) Ltd	© Crown Copyright and database rights 2013 Ordnance Survey Licence Number 100049190.
Confirmed bat roost – buildings: Hibernation roost Maternity roost Other roost Multiple roost types	Locations where bat roost survey has been completed within buildings. Buildings are categorised into those with potential to support bat roosts (high and medium potential) and those that have confirmed roosts. Confirmed roosts are further categorised into Hibernation, Maternity, Other or Multiple roosts.	High Speed Two (HS2) Ltd	
Potential to support roosting bats – buildings: High Moderate			
Confirmed bats roost – trees: Hibernation roost Maternity roost Other roost Multiple roost types	Locations where bat roost survey has been completed within trees. Trees are categorised into those with potential to support bat roosts (high and medium potential) and those that have confirmed roosts. Confirmed roosts are further categorised into Hibernation, Maternity, Other or Multiple roosts.	High Speed Two (HS2) Ltd	
Potential to support roosting bats – trees: High Moderate			
County boundary	County boundaries from Ordnance Survey boundary mapping.	Ordnance Survey	© Crown Copyright and database rights 2013 Ordnance Survey Licence Number 100049190.
Depot, station, headhouse or portal building	Extends to cover operational footprint of each depot and station and the footprint of each tunnel vent shaft and headhouse at surface level. Excludes any ancillary buildings associated with these structures.	High Speed Two (HS2) Ltd	
District/Borough boundary	Ordnance Survey local authority boundary mapping.	Ordnance Survey	© Crown Copyright and database rights 2013 Ordnance Survey Licence Number 100049190.
Ditch vegetation survey	Extent of Ditch vegetation surveys.	High Speed Two (HS2) Ltd	
Dormouse: Nest tube survey and/or nut search conducted and presence confirmed Nest tube survey and/or nut search conducted and no signs of dormouse identified	Extent of Dormouse survey using nest tube and/or nut search. Those areas where access was available either had confirmed presence or no signs were found.	High Speed Two (HS2) Ltd	

Legend features	Definition	Source	Copyright
Site identified as potentially suitable for dormouse but no access available			
Fish: Fish survey location	Location where fish survey was conducted.	High Speed Two (HS2) Ltd	
Great Crested Newt (GCN) survey locations	Results from Great Crested Newt pond surveys.	High Speed Two (HS2) Ltd	
'Important' hedgerow confirmed by field survey Possible 'Important' hedgerow - no access available for survey	Location of those hedgerows that have been identified as 'important hedgerows' or possible 'important hedgerows' under the wildlife and landscape criteria in the Hedgerows Regulations (2007).	High Speed Two (HS2) Ltd	
Land potentially required during construction	Boundary defining the maximum possible extent of construction works required to build HS2 as far as the current level of design allows. This only covers surface works and includes all tunnel portals, vent shafts and headhouses, but does not apply to wholly tunnelled sections or to air rights. It also encompasses associated highway, access, drainage and utility works.	High Speed Two (HS2) Ltd	
Local Nature Reserve (LNR)	A Local Nature Reserve (LNR) is a statutory designation made under Section 21 of the National Parks and Access to the Countryside Act 1949 by principal local authorities. Data supplied has the status of Declared. The boundaries are interpreted from material gathered from the local authorities and do not currently cover all LNRs. This national dataset is indicative not definitive. Definitive information can only be provided by individual local authorities and you should refer directly to their information for all purposes that require the most up to date and complete dataset.	Natural England	© Natural England copyright 2013 Contains Ordnance Survey data © Crown copyright and database right 2013. All rights reserved. Ordnance Survey Licence number 100022021. http://www.naturalengland.org.uk/Images/open-government-licence-NE-OS_tcm6-30743.pdf
Local Wildlife Site (LWS)	<p>Local Wildlife Sites (LWS) are identified and selected for their local nature conservation value. They protect threatened species and habitats acting as buffers, stepping stones and corridors between nationally designated wildlife sites.</p> <p>They are local non-statutory nature conservation sites. They were formerly referred to as County Wildlife Sites.</p>	EcoRecord Warwickshire County Council Birmingham Council Greenspace Information for Greater London (GiGL) Northamptonshire County Council Buckinghamshire County Council Thames Valley Ecological Records Centre (TVERC) c/o Oxfordshire County Council Hertfordshire County Council	Data supplied by EcoRecord, Warwickshire BRC & Birmingham © Crown copyright and database rights 2012 Ordnance Survey Licence Number 100049190. Map derived from GiGL data 2012 (where a map shows information derived from GiGL data). This data incorporates biodiversity data supplied to HS2 by Northamptonshire Biodiversity Records Centre and The Wildlife Trust for Bedfordshire, Cambridgeshire and Northamptonshire (Wildlife Trust BCN), and is copyright to Wildlife Trust BCN and/or its partners. This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Buckinghamshire County Council Licence No. 100021529, 2012. Incorporates biodiversity data supplied by Thames Valley Environmental Records Centre (TVERC). This data are copyright to TVERC and/or its partners.

Legend features	Definition	Source	Copyright
		Staffordshire Ecological Record (SER)	<p>Incorporates biodiversity data supplied to High Speed Two (HS2) by Hertfordshire Biological Records Centre and is copyright to Hertfordshire County Council, Hertfordshire Biological Records Centre and/or its partners.</p> <p>Copyright © Staffordshire Ecological Record Partnership, 2013. The information is reproduced from, or based upon information supplied by Staffordshire Ecological Record (SER) and reproduced with the permission of the SER Partnership. Individual records within the data are copyright their original recorders and provided under licence via SER. All data supplied by SER is to the best of SER's knowledge correct at the time of production. However, the precision or accuracy of SER data is usually based upon the original information supplied by the recorder and although SER strives to ensure all records are checked and validated, SER cannot be held responsible for any errors or omissions. The presence of a marked boundary within SER information does not infer any rights of public access.</p>
National Nature Reserve (NNR)	A National Nature Reserve (NNR) is the land declared under the National Parks and Access to the Countryside Act 1949 or Wildlife and Countryside Act (1981) as amended.	Natural England	<p>© Natural England copyright 2013 Contains Ordnance Survey data © Crown copyright and database right 2013. All rights reserved. Ordnance Survey Licence number 100022021.</p> <p>http://www.naturalengland.org.uk/Images/open-government-licence-NE-OS_tcm6-30743.pdf</p>
National Vegetation Classification survey	Extent of National Vegetation Classification surveys.	High Speed Two (HS2) Ltd	
Nature reserve	<p>Designated and non-designated nature reserves managed by local authorities, The Wildlife Trusts and private landowners.</p> <p>Nature reserve information is reproduced from, or based upon information supplied by Staffordshire Ecological Record (SER) and reproduced with the permission of the SER Partnership. Individual records within the data are copyright their original recorders and provided under licence via SER.</p> <ul style="list-style-type: none"> - All data supplied by SER is to the best of SER's knowledge correct at the time of production. However, the precision or accuracy of SER data is usually based upon the original information supplied by the recorder and although SER strives to ensure all records are checked and validated, SER cannot be held responsible for any errors or omissions - The presence of a marked boundary within SER information does not infer any right of public access. 	Ecorecord, Staffordshire Ecological Record, Royal Society for the Protection of Birds	<p>Licensed in accordance with PSMA © Crown Copyright and database rights [2013]. Ordnance Survey Licence number 100049190.</p> <p>Copyright © Staffordshire Ecological Record Partnership, (2013).</p> <p>Data reproduced with the permission of RSPB. © Crown copyright. Ordnance Survey Licence Number 100021787 (2013).</p>
Otter: Active otter holt Potential otter holt	Location of active otter holts and potential otter holts found during field survey.	High Speed Two (HS2) Ltd	

Legend features	Definition	Source	Copyright
Otter terrestrial habitat	Areas of terrestrial habitat within 100m of the Proposed Scheme that are identified as having 'high' potential to act as otter breeding sites (i.e. those ranked as having a score of 5 on the scale devised by Chanin).	High Speed Two (HS2) Ltd	
Phase 1 Habitat survey data	Results from Phase1 habitat surveys.	High Speed Two (HS2) Ltd	
Pond survey: Pond survey – national pond survey Pond survey – PSYM Pond survey – rapid assessment method	Location and type of pond surveys conducted.	High Speed Two (HS2) Ltd	
Reptiles - Population	Areas where a reptile survey was completed. Survey varies from population size class assessment, presence/absence survey or scoping visit only where it was then scoped out or it was identified as requiring further survey.	High Speed Two (HS2) Ltd	
Reptiles - Extent of areas subject to reptiles survey & results of population size class assessment	Identifies population size classes of adder, common lizard, grass snake and slow worm based on a scale from high, medium, low and absent.	High Speed Two (HS2) Ltd	
River corridor survey extent	Extent of river corridor surveys.	High Speed Two (HS2) Ltd	
River habitat survey extent	Extent of river habitat surveys.	High Speed Two (HS2) Ltd	
Route in tunnel Route on surface	Represents the proposed route of HS2, split into route on surface and tunneled sections.	High Speed Two (HS2) Ltd	
Site of Biological Importance (SBI)	<p>Local wildlife sites in Staffordshire are called Sites of Biological Importance (SBI) and Biodiversity Alert Sites (BAS). SBI are generally the best remaining examples within Staffordshire of habitats which rate highly on the basis of such factors as naturalness, diversity or rarity of species or communities. These sites are frequently the remnants of larger areas of semi-natural vegetation, which may not be either sufficiently extensive or undisturbed to warrant SSSI status but are important examples of characteristic or notable vegetation types or habitat complexes (sometimes with associated dependent plant or animal species). As such, they contribute the most significant element in the county's nature conservation resources.</p> <p>The SBI information is reproduced from, or based upon, information supplied by Staffordshire Ecological Record (SER) and reproduced with the permission of the SER Partnership. Individual records within the data are copyright their original recorders and provided under licence via SER.</p> <ul style="list-style-type: none"> - All data supplied by SER is to the best of SER's knowledge correct at the time of production. However, the precision or accuracy of SER data is usually based upon the original information supplied by the recorder and although SER strives to ensure all records are checked and validated, SER cannot be held responsible for any errors or omissions - The presence of a marked boundary within SER information does not infer any right of public access. 	Staffordshire Ecological Record	Copyright © Staffordshire Ecological Record Partnership, (2013).
Site of Borough (Grade I) Importance for Nature Conservation (SBI.I)	SINCs are designated by a panel of local ecological professionals. This is a non-statutory designation, although SINCs are still afforded a high level of protection within the planning system. Development that negatively impacts on a INC will only be permitted in exceptional circumstances and where mitigation can be proven from the beginning. Sites of Borough Importance (grade 1) are selected from candidates	Greenspace Information for Greater London (GiGL)	GiGL data [2013].

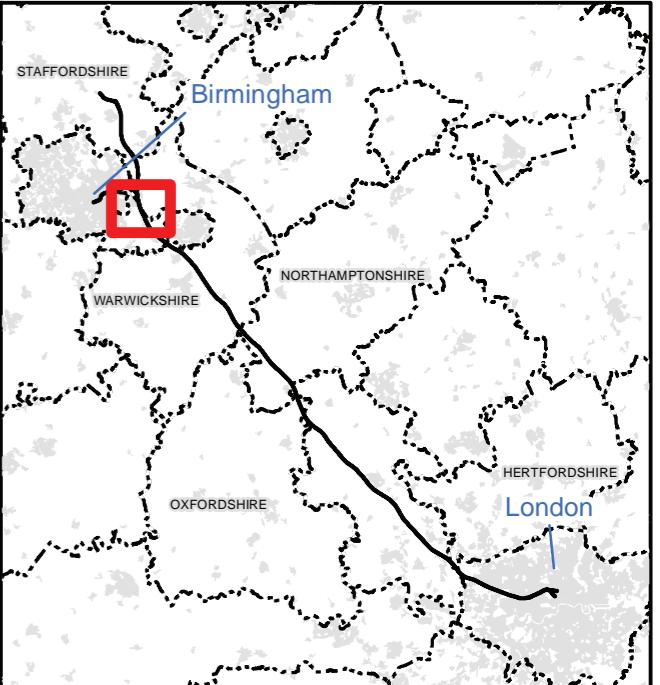
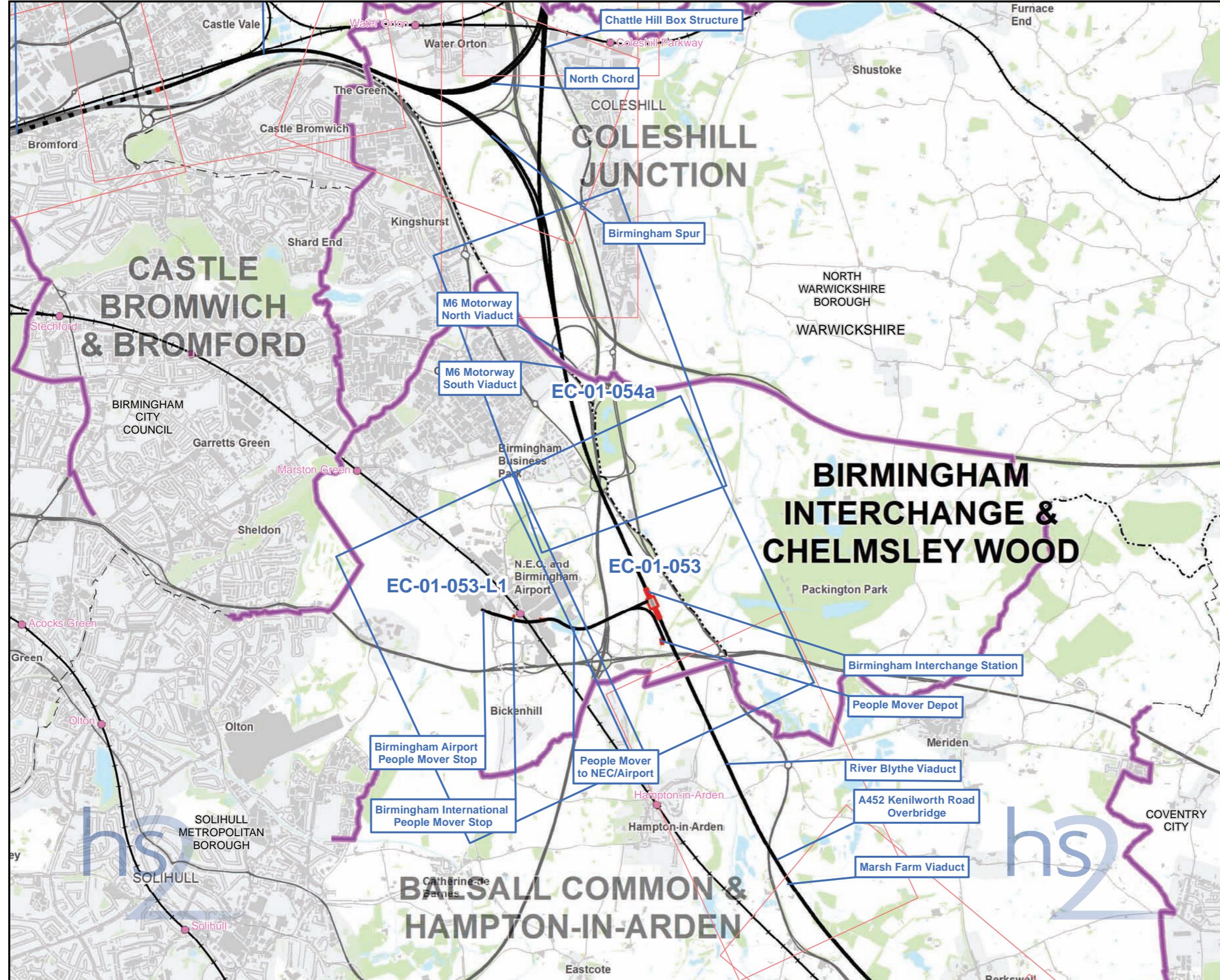
Legend features	Definition	Source	Copyright
	within each borough, so ensuring that borough has some sites identified.		
Site of Borough (Grade II) Importance for Nature Conservation (SBI.II)	SINCs are designated by a panel of local ecological professionals. This is a non-statutory designation, although SINCs are still afforded a high level of protection within the planning system. Development that negatively impacts on a SINC will only be permitted in exceptional circumstances and where mitigation can be proven from the beginning. Sites of Borough Importance (grade 2) are selected from candidates within each borough, so ensuring that borough has some sites identified.	Greenspace Information for Greater London (GiGL)	GiGL data (2013).
Site of Importance for Nature Conservation (SINC)	Also known as Local Wildlife Sites, these sites have a 'substantive nature conservation value'. They are defined areas, identified and selected locally for their nature conservation value, based on important, distinctive and threatened habitats and species with a national, regional and (importantly) a local context.	EcoRecord	Licensed in accordance with PSMA Crown Copyright and database rights 2012 Ordnance Survey Licence Number 1000049190.
Site of Local Importance for Nature Conservation (SLINC)	Also known as Local Wildlife Sites, these sites have a 'substantive nature conservation value'. They are defined areas, identified and selected locally for their nature conservation value, based on important, distinctive and threatened habitats and species with a national, regional and (importantly) a local context. The system in operation in London identifies three grades of SINC: Sites of Metropolitan Importance (SMI); Sites of Borough Importance (SBI); and Sites of Local Importance (SLI).	EcoRecord Greenspace Information for Greater London (GiGL)	Licensed in accordance with PSMA Crown Copyright and database rights 2012 Ordnance Survey Licence Number 1000049190. GiGL data (2013).
Site of Metropolitan Importance for Nature Conservation (SMI)	Sites of Metropolitan Importance are selected on a London-wide basis. These come under the umbrella designation of SINCs which are designated by a panel of local ecological professionals. This is a non-statutory designation, although SINCs are still afforded a high level of protection within the planning system. Development that negatively impacts on a SINC will only be permitted in exceptional circumstances and where mitigation can be proven from the beginning. Sites of Metropolitan Importance are selected on a London-wide basis.	Greenspace Information for Greater London (GiGL)	Licensed in accordance with PSMA Crown Copyright and database rights 2012 Ordnance Survey Licence Number 1000049190. GiGL data (2013).
Site of Special Scientific Interest (SSSI)	A Site of Special Scientific Interest (SSSI) is the land notified as an SSSI under the Wildlife and Countryside Act (1981), as amended.	Natural England	© Natural England copyright 2013 Contains Ordnance Survey data © Crown copyright and database right 2013. All rights reserved. Ordnance Survey Licence number 100022021. http://www.naturalengland.org.uk/Images/open-government-licence-NE-OS_tcm6-30743.pdf
Terrestrial invertebrate: Terrestrial invertebrate survey extent	Extent of terrestrial invertebrate survey.	High Speed Two (HS2) Ltd	
Water body	Based on Ordnance Survey Vector Map District.	Ordnance Survey	© Crown Copyright and database rights 2013 Ordnance Survey Licence Number 100049190.
Water vole: Water vole survey undertaken – presence confirmed Water vole survey undertaken – assumed absent Watercourse potentially suitable for water vole – no or limited access for survey	Extent of water vole survey. Those areas where access was available either had confirmed presence or water voles were assumed absent.	High Speed Two (HS2) Ltd	
Watercourse	The Detailed River Network (DRN) is the only large-scale, accurate and fully attributed digital river centreline covering England and Wales.	Environment Agency	Contains Environment Agency information © Environment Agency and database right.

Legend features	Definition	Source	Copyright
White clawed crayfish: Manual search and/or trapping conducted and presence confirmed Manual search and/or trapping conducted and assumed absent Site identified as potentially suitable but no access available	Location where white clawed crayfish survey was conducted. Location categorised as to whether presence was confirmed, assumed absent or no access was available.	High Speed Two (HS2) Ltd	
Wintering and passage birds - protection status: Species listed on Annex 1 of the Birds Directive Species listed on Schedule 1 of the Wildlife and Countryside Act Species listed on Annex 1 of the Birds Directive and Schedule 1 of the Wildlife and Countryside Act Species listed on Birds of Conservation Concern list relevant to assessment – see Volume 5 Appendices Other notable species relevant to assessment – see Volume 5 Appendices	Field survey records of selected protected and/or notable wintering birds that are considered most relevant in considering the impacts of the Proposed Scheme.	High Speed Two (HS2) Ltd	
Wintering and passage birds - survey extent	Area where wintering and passage birds survey was conducted.	High Speed Two (HS2) Ltd	
Woodland (not verified by survey) Woodland (verified by survey)	Woodland areas derived from Ordnance Survey mastermap data.	Ordnance Survey	© Crown Copyright and database rights 2013 Ordnance Survey Licence Number 100049190.



LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

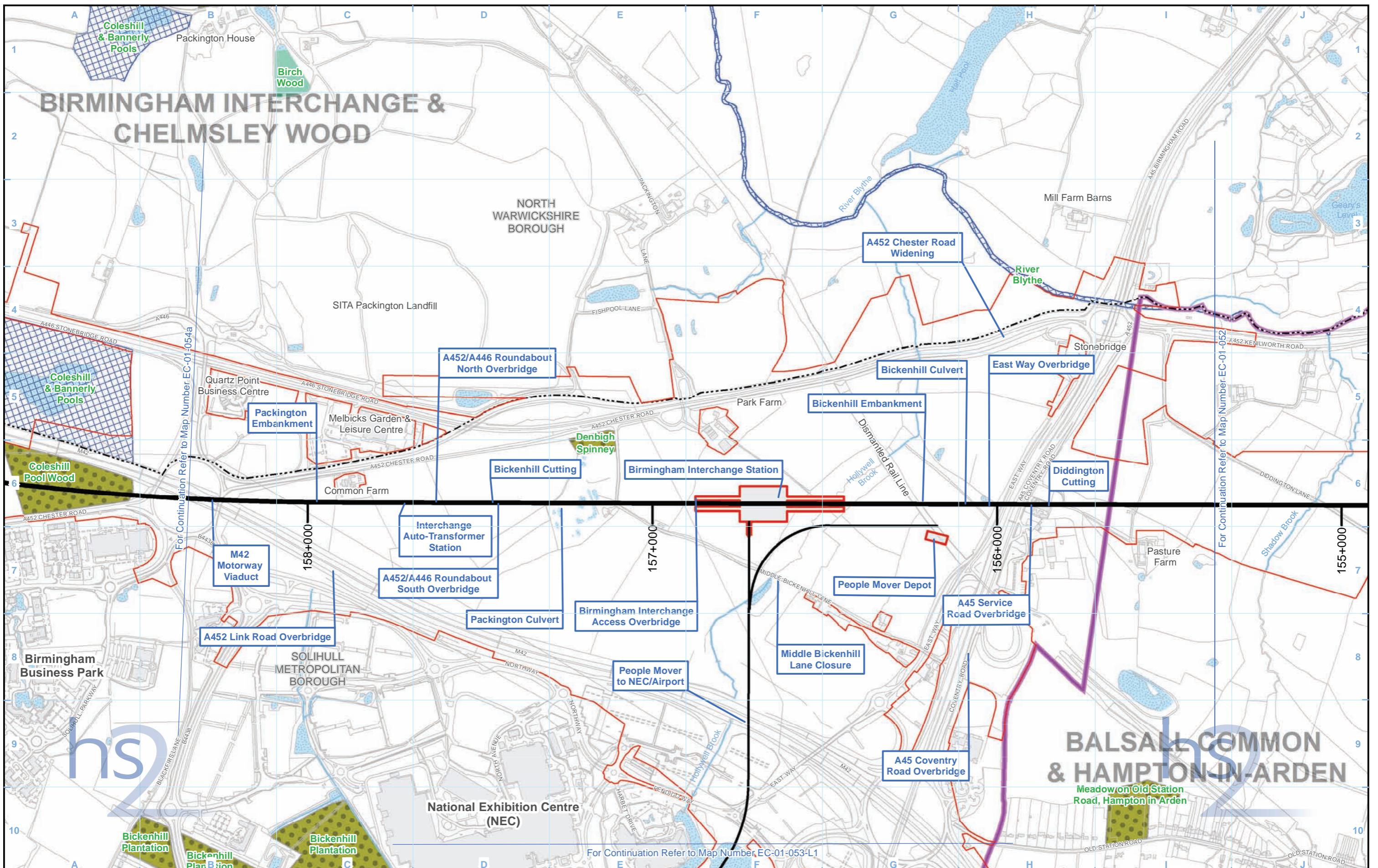
EC-01 – Designated Sites



Main Map Legend	
Route in tunnel	Map sheets included in this community forum
Route on surface	Map sheets not included in this community forum
Depot, station, headhouse or portal building	
Community forum boundary	
Existing railway station	
County boundary	
District/Borough boundary	

Map Number EC-01-INDEX-CFA24 Map Name Index Map of: Designated Sites Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood	Map Number EC-01-INDEX-CFA24
	Map Name Index Map of: Designated Sites
	Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood

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Legend

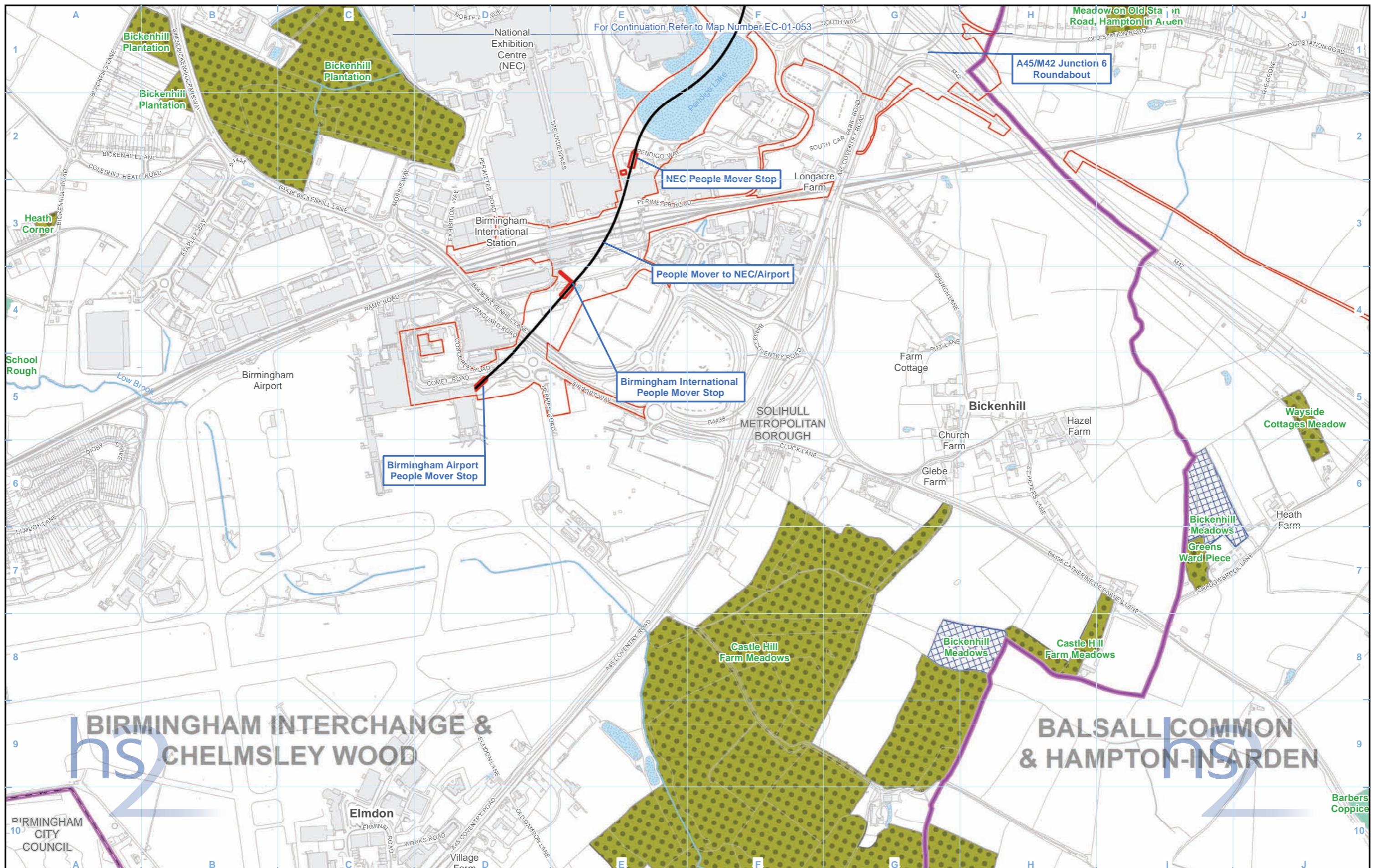
- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- County boundary
- District/Borough boundary

—— Watercourse ■ Site of Special Scientific Interest (SSSI)
■ Water body ■ Local Nature Reserve (LNR)
■ Local Wildlife Site (LWS)
■ Site of Importance for Nature Conservation (SINC)
■ Site of Local Importance for Nature Conservation (SLINC)
■ Nature reserve
■ Ancient Woodland

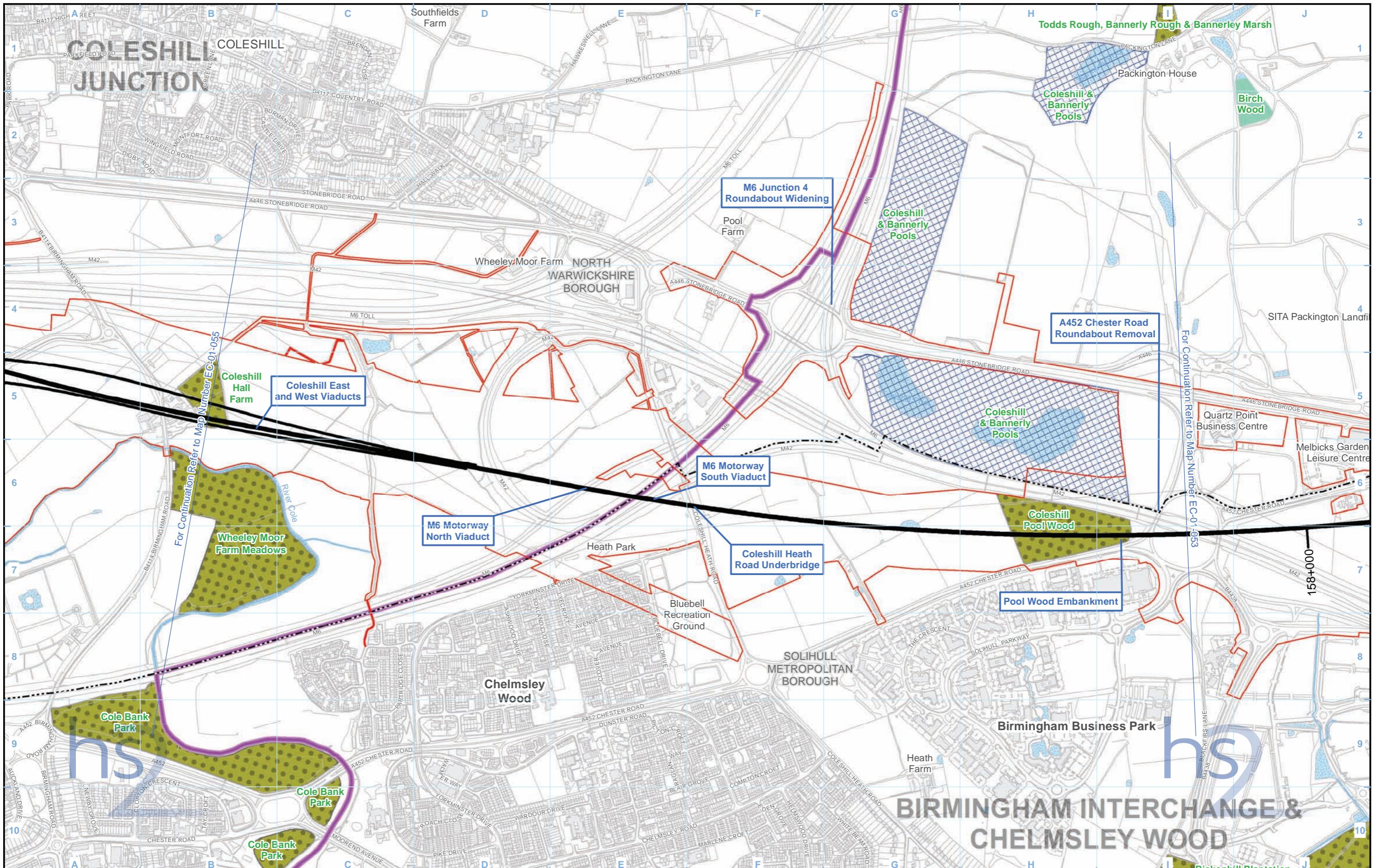
N.B. Due to the overlapping nature of some ecological designations, and the range of different site designations that occur across the route, individual designations may on occasion be obscured. In all cases where an area of land is covered by more than one ecological designation, as a minimum the ecological designation of highest value is visible.

Map Number	EC-01-053
Map Name	Designated Sites
Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood	

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 0 100 200 300 400 Metres
 Doc Number: C254-ARP-EV-MAP-040-061053-P06.00
 Date: 28/10/13



<p>Map Number EC-01-053-L1</p> <p>Map Name Designated Sites</p> <p>Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood</p>	<p>hs</p> <p>HS2 Ltd accept no responsibility for any circumstances which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued incomplete in any way.</p> <p>Registered in England. Registration number 06791686. Registered office: Eland House, Bressenden Place, London SW1E 5DU.</p> <p>© Crown copyright and database rights 2013. Ordnance Survey Licence Number 100049190.</p> <p>Scale at A3: 1:10,000</p> <p>0 100 200 300 400 Metres</p> <p>Doc Number: C254-ARP-EV-MAP-040-061153-P06.00</p> <p>Date: 28/10/13</p>
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<p>Map Number: EC-01-054a</p> <p>Map Name: Designated Sites</p> <p>Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood</p>	<p>hs</p> <p>HS2 Ltd accept no responsibility for any circumstances which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued incomplete in any way.</p> <p>Registered in England. Registration number 06791686. Registered office: Eland House, Bressenden Place, London SW1E 5DU.</p> <p>© Crown copyright and database rights 2013. Ordnance Survey Licence Number 100049190.</p> <p>Scale at A3: 1:10,000</p> <p>0 100 200 300 400 Metres</p>
<p>Legend</p> <ul style="list-style-type: none"> Route in tunnel Route on surface Depot, station, headhouse or portal building Land potentially required during construction Community forum boundary County boundary District/Borough boundary Watercourse Water body Local Wildlife Site (LWS) Site of Importance for Nature Conservation (SINC) Site of Local Importance for Nature Conservation (SLINC) Nature reserve Ancient Woodland Site of Special Scientific Interest (SSSI) Local Nature Reserve (LNR) <p>N.B. Due to the overlapping nature of some ecological designations, and the range of different site designations that occur across the route, individual designations may on occasion be obscured. In all cases where an area of land is covered by more than one ecological designation, as a minimum the ecological designation of highest value is visible.</p>	<p>Map Number: EC-01-054a</p> <p>Map Name: Designated Sites</p> <p>Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood</p>

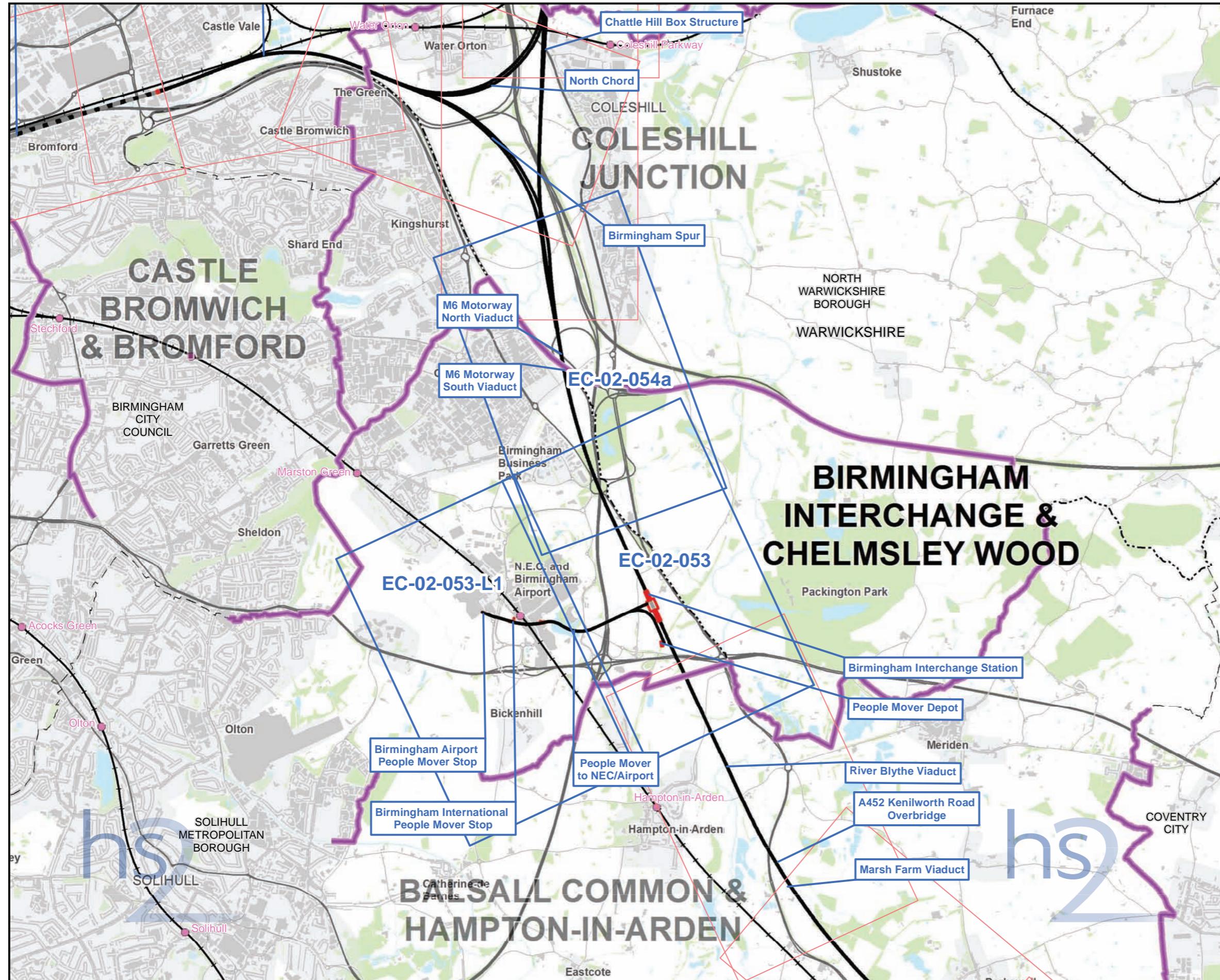


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LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

EC-02 – Phase 1 Habitat (1:10,000)



Main Map Legend

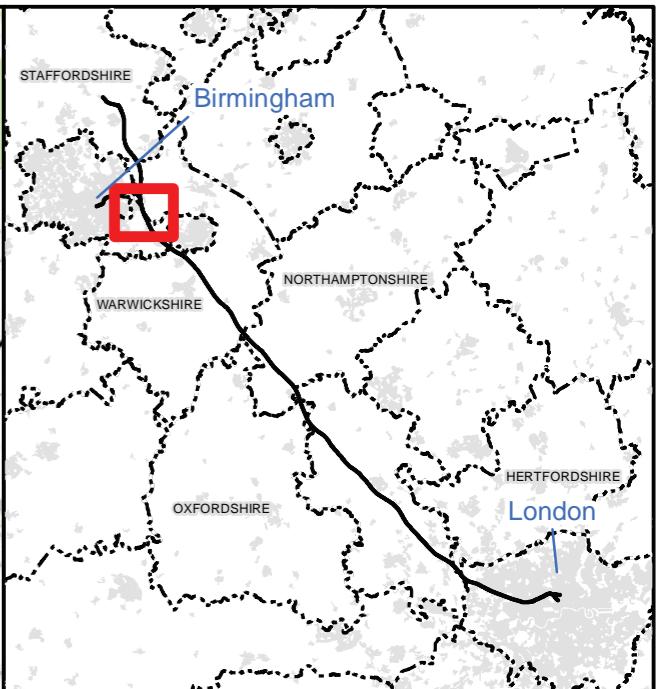
- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community forum boundary
- Existing railway station
- - - County boundary
- District/Borough boundary

Map sheets included in this community forum
Map sheets not included in this community forum

Map Number: EC-02-INDEX-CFA24

Map Name: Index Map of:
Phase 1 Habitat (1:10,000)

Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood



Map Series Information:

This map series shows Phase 1 habitat survey information for land required and in the vicinity of the Proposed Scheme at a scale of 1:10,000. Where it has not been possible to gain access for field survey, the information is based on available desk study and interpretation of aerial photography.

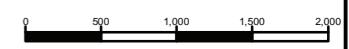
Note: Not all data layers in the legend are represented on every map.



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Scale at A3: 1:50,000



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Date: 25/10/13

Phase 1 Habitat survey legend

Habitat Areas		S	Spoil	Linear Habitats		Point Habitats	
Broadleaved woodland - semi-natural	SI	Poor semi-improved grassland	R	Refuse-tip	Scrub - scattered	X	Scrub - scattered
Broadleaved woodland - plantation		Bracken - continuous	A	Cultivated/disturbed land - arable	• Broadleaved parkland/scattered trees	●	Broadleaved parkland/scattered trees
Coniferous woodland - semi-natural		Bracken - scattered	A	Cultivated/disturbed land - amenity grassland	● ● ● Coniferous parkland/scattered trees	● ● ●	Coniferous parkland/scattered trees
Coniferous woodland - plantation		Upland species-rich ledges	XXXXX	Cultivated/disturbed land - ephemeral/short perennial	● ● ● Mixed parkland/scattered trees	×	Bracken - scattered
Mixed woodland - semi-natural		Other tall herb and fern - ruderal		Introduced shrub	— Upland species-rich ledges		
Mixed woodland - plantation		Other tall herb and fern - non ruderal		Intact hedge - native species-rich	— Marginal and inundation - marginal vegetation		
Scrub - dense/continuous		Dry dwarf shrub heath - acid		Intact hedge - species-poor	— Running water		
Scrub - scattered		Lichen/bryophyte heath		Defunct hedge - native species-rich	W W W Intact hedge - native species-rich		
Broadleaved parkland/scattered trees		Dry heath/acid grassland		Defunct hedge - species-poor	— Intact hedge - species-poor		
Coniferous parkland/scattered trees		Wet modified bog		Hedge with trees - native species-rich	W W W Defunct hedge - native species-rich		
Mixed parkland/scattered trees		Fen - valley mire		Hedge with trees - species-poor	— Defunct hedge - species-poor		
Broadleaved woodland - recently felled	F F	VM		Fence	W W W Hedge with trees - native species-rich		
Mixed woodland - recently felled	F F	Swamp		Wall	Hedge with trees - species-poor		
Acid grassland - unimproved		Marginal and inundation - inundation vegetation		Dry ditch	Fence		
Acid grassland - semi-improved	SI	E E		Boundary removed	— Wall		
Neutral grassland - unimproved		Standing water		Earth bank	— Dry ditch		
Neutral grassland - semi-improved	SI	Standing water - eutrophic		Limestone pavement	XXXXX Boundary removed		
Calcareous grassland - unimproved		Standing water - mesotrophic		Other exposure - basic	● ● ● Earth bank		
Calcareous grassland - semi-improved	SI	Running water		Cave			
Improved grassland	I I	Limestone pavement		Quarry			
Marsh/marshy grassland		Other exposure - basic		Bare ground			
				Buildings			
				Other habitat			

Map Name
EC-02 - Legend

Map Name
EC-02 - Phase 1 Habitat Survey
Legend



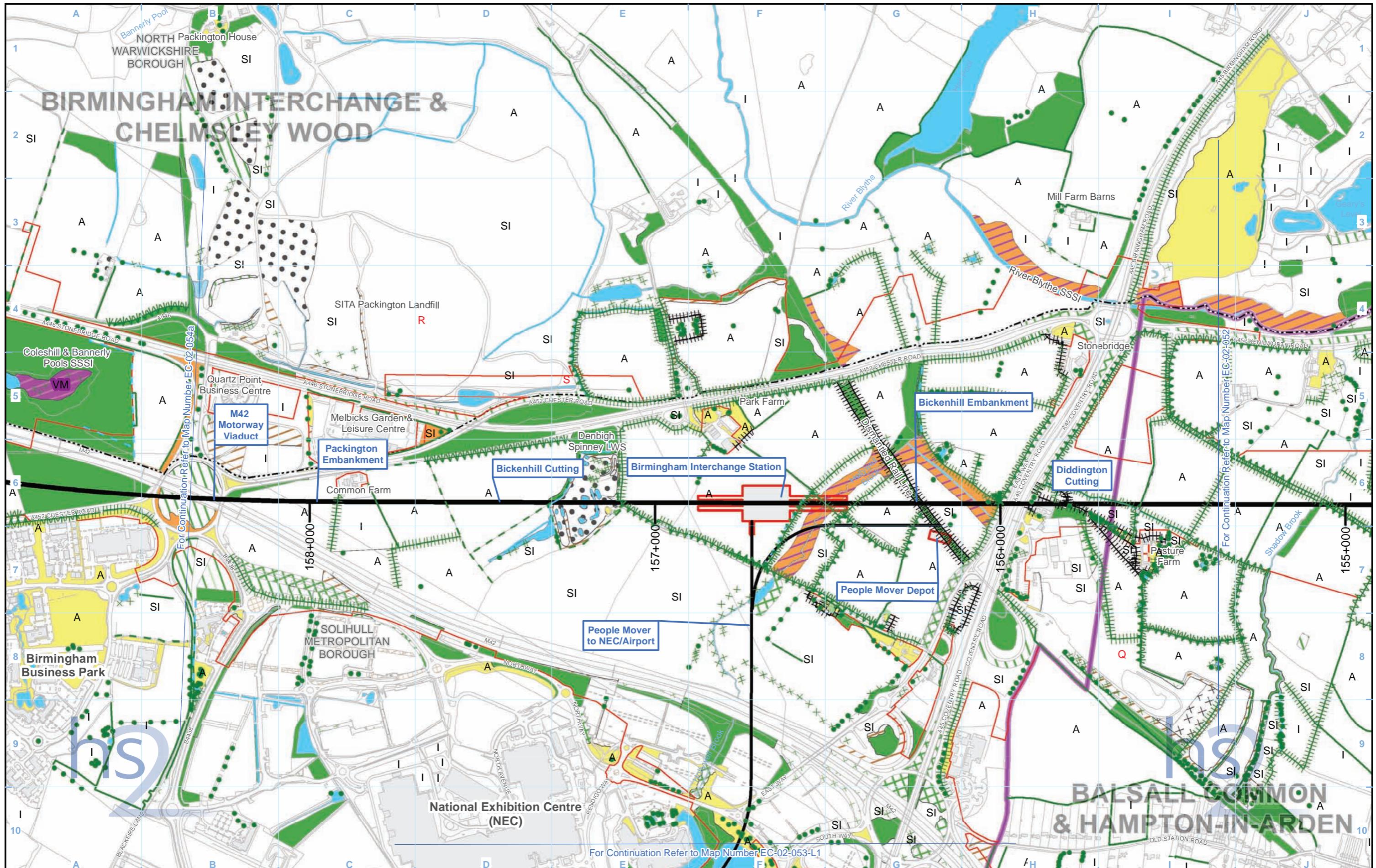
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Date: 26/09/13



Legend

- Route in tunnel
 - Route on surface
 - Depot, station, headhouse or portal building
 - Land potentially required during construction
 - Community forum boundary
 - County boundary
 - District/Borough boundary

For full legend please refer to EC-02 - Legend page

Map Number

EC-02-053

Phase 1 Habitat
(1:10,000)

Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood

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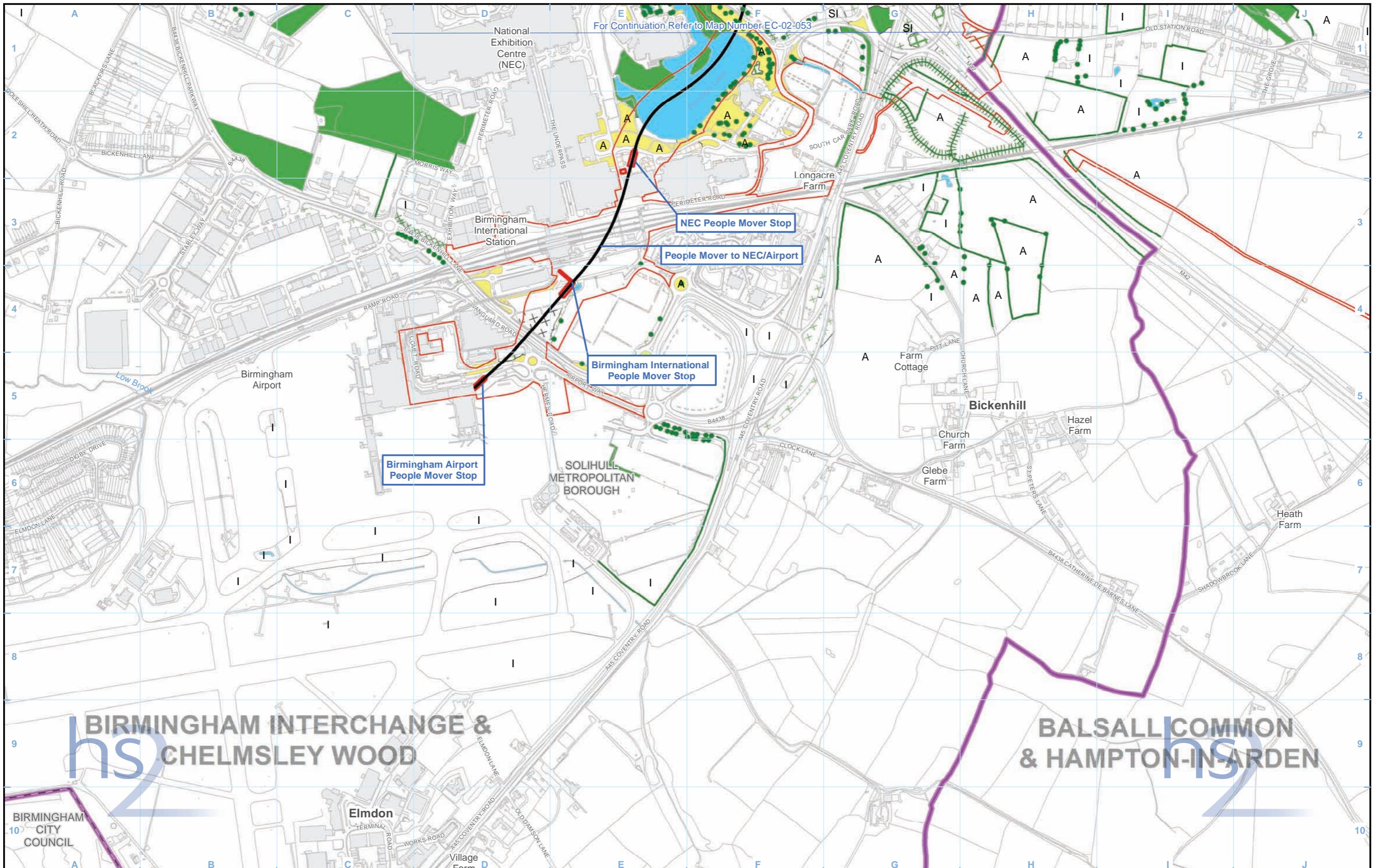
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Scale at A3: 1:10,000



Scale at A3: 1:10,000

Date: 28/10/13



Map Number
EC-02-053-L1

Map Name
**Phase 1 Habitat
(1:10,000)**

Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood



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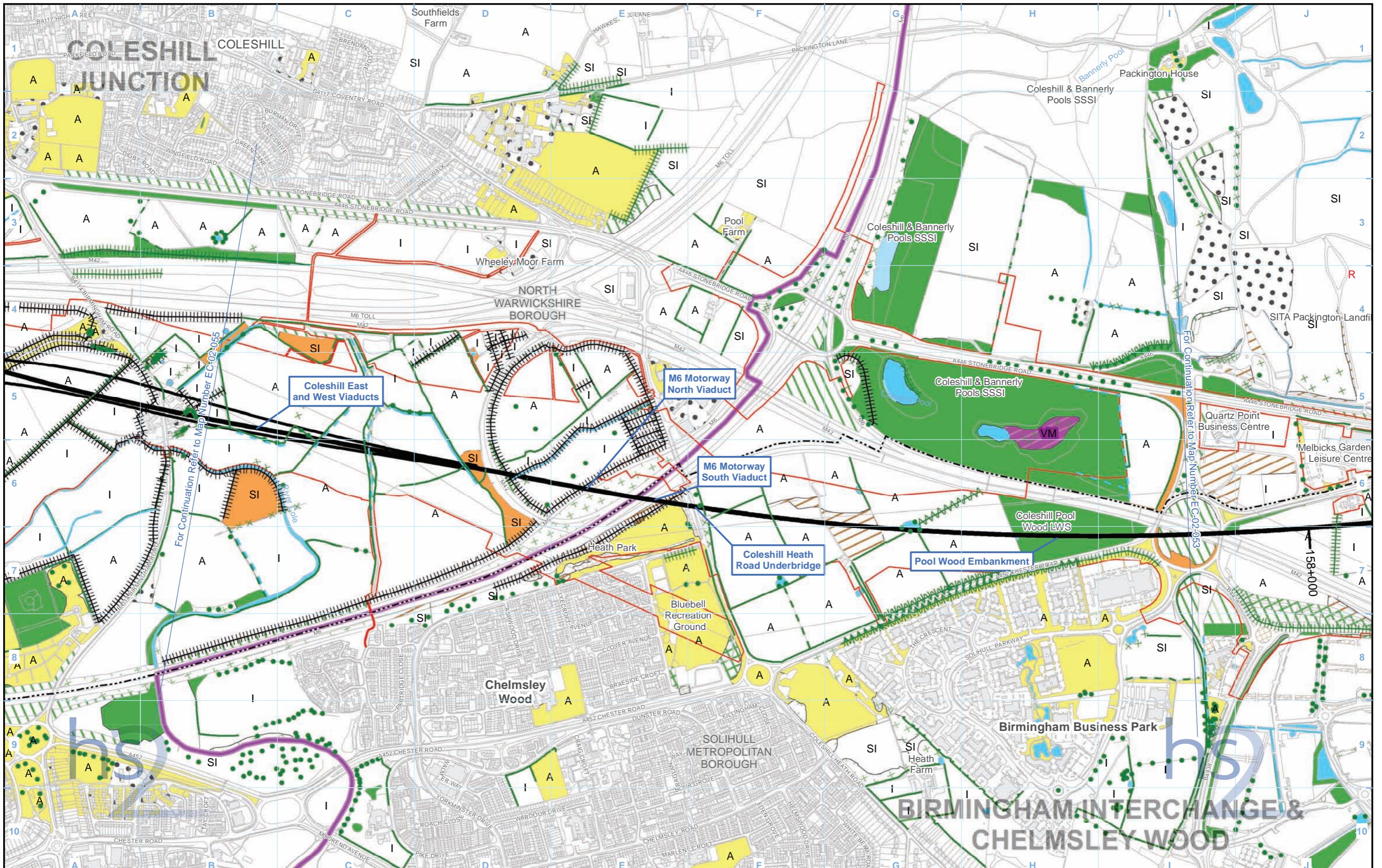


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Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- County boundary
- District/Borough boundary

For full legend please refer to EC-02 - Legend page

Map Number

EC-02-054a

Map Name

**Phase 1 Habitat
(1:10,000)**

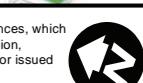


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Metres



Date: 28/10/13

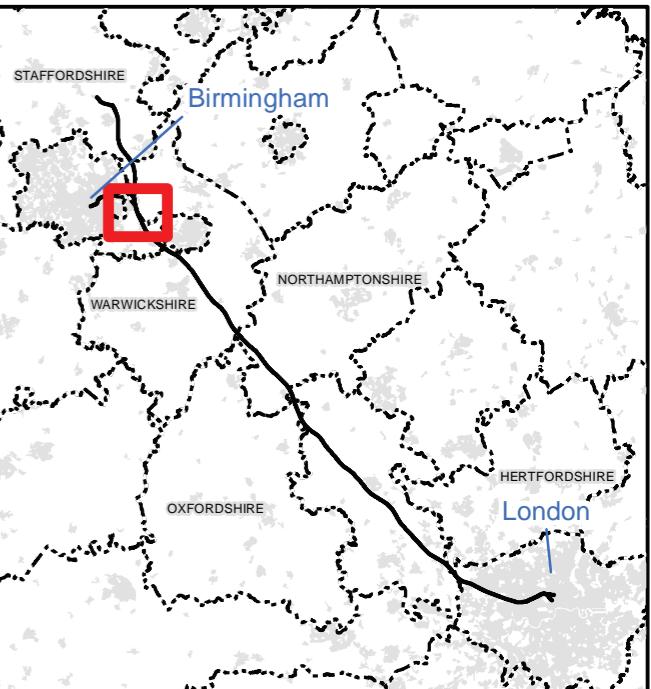
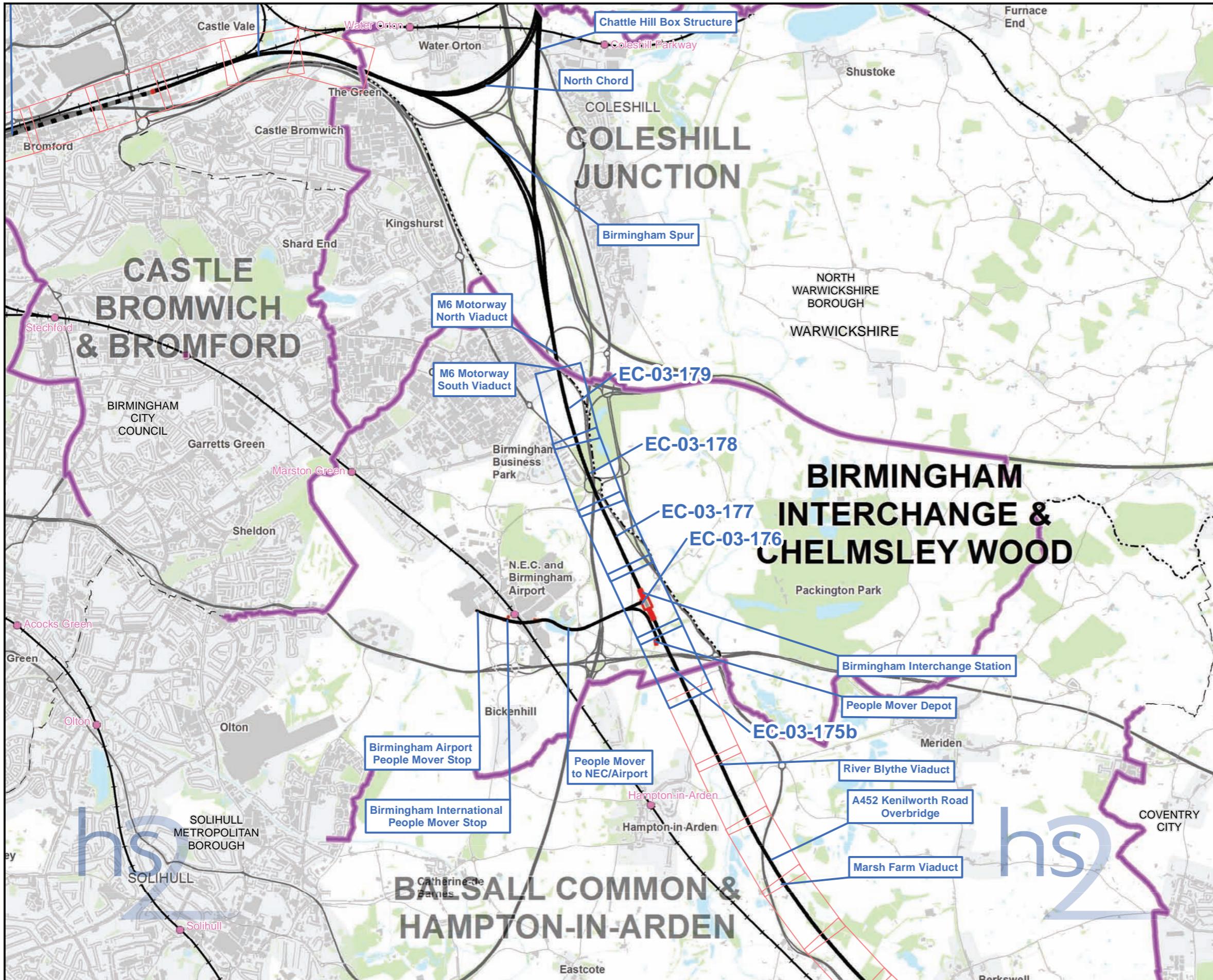
Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood

Doc Number: C254-ARP-EV-MAP-040-062054-P06.00



LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

EC-03 – Phase 1 Habitat (1:2,500)



Main Map Legend	
Route in tunnel	Map sheets included in this community forum
Route on surface	Map sheets not included in this community forum
Depot, station, headhouse or portal building	
Community forum boundary	
Existing railway station	
County boundary	
District/Borough boundary	

Map Number EC-03-INDEX-CFA24	Map Name Index Map of: Phase 1 Habitat (1:2,500)
Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood	

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Scale at A3: 1:50,000 0 500 1,000 1,500 2,000 Metres
Date: 25/10/13

Phase 1 Habitat survey legend

Habitat Areas		S	Spoil	Linear Habitats		Point Habitats	
Broadleaved woodland - semi-natural	SI	Poor semi-improved grassland	R	Refuse-tip	Scrub - scattered	X	Scrub - scattered
Broadleaved woodland - plantation		Bracken - continuous	A	Cultivated/disturbed land - arable	• Broadleaved parkland/scattered trees	●	Broadleaved parkland/scattered trees
Coniferous woodland - semi-natural		Bracken - scattered	A	Cultivated/disturbed land - amenity grassland	● ● ● Coniferous parkland/scattered trees	● ● ●	Coniferous parkland/scattered trees
Coniferous woodland - plantation		Upland species-rich ledges	XXXXX	Cultivated/disturbed land - ephemeral/short perennial	● ● ● Mixed parkland/scattered trees	×	Bracken - scattered
Mixed woodland - semi-natural		Other tall herb and fern - ruderal		Introduced shrub	— Upland species-rich ledges		
Mixed woodland - plantation		Other tall herb and fern - non ruderal		Intact hedge - native species-rich	— Marginal and inundation - marginal vegetation		
Scrub - dense/continuous		Dry dwarf shrub heath - acid		Intact hedge - species-poor	— Running water		
Scrub - scattered		Lichen/bryophyte heath		Defunct hedge - native species-rich	W W W Intact hedge - native species-rich		
Broadleaved parkland/scattered trees		Dry heath/acid grassland		Defunct hedge - species-poor	— Intact hedge - species-poor		
Coniferous parkland/scattered trees		Wet modified bog		Hedge with trees - native species-rich	W W W Defunct hedge - native species-rich		
Mixed parkland/scattered trees		Fen - valley mire		Hedge with trees - species-poor	— Defunct hedge - species-poor		
Broadleaved woodland - recently felled	F F	VM		Fence	W W W Hedge with trees - native species-rich		
Mixed woodland - recently felled	F G	Fen - valley mire		Wall	Hedge with trees - species-poor		
Acid grassland - unimproved		Standing water		Dry ditch	Fence		
Acid grassland - semi-improved	SI	Standing water - eutrophic		Boundary removed	— Wall		
Neutral grassland - unimproved		Standing water - mesotrophic		Earth bank	— Dry ditch		
Neutral grassland - semi-improved	SI	Running water		Caravan site	XXXXX Boundary removed		
Calcareous grassland - unimproved		Limestone pavement		Buildings	● ● ● Earth bank		
Calcareous grassland - semi-improved	SI	Other exposure - basic		Bare ground			
Improved grassland	I I	Cave		Other habitat			
Marsh/marshy grassland		Q Q	Quarry				

Map Name
EC-03 - Legend

Map Name
EC-03 - Phase 1 Habitat Survey
Legend



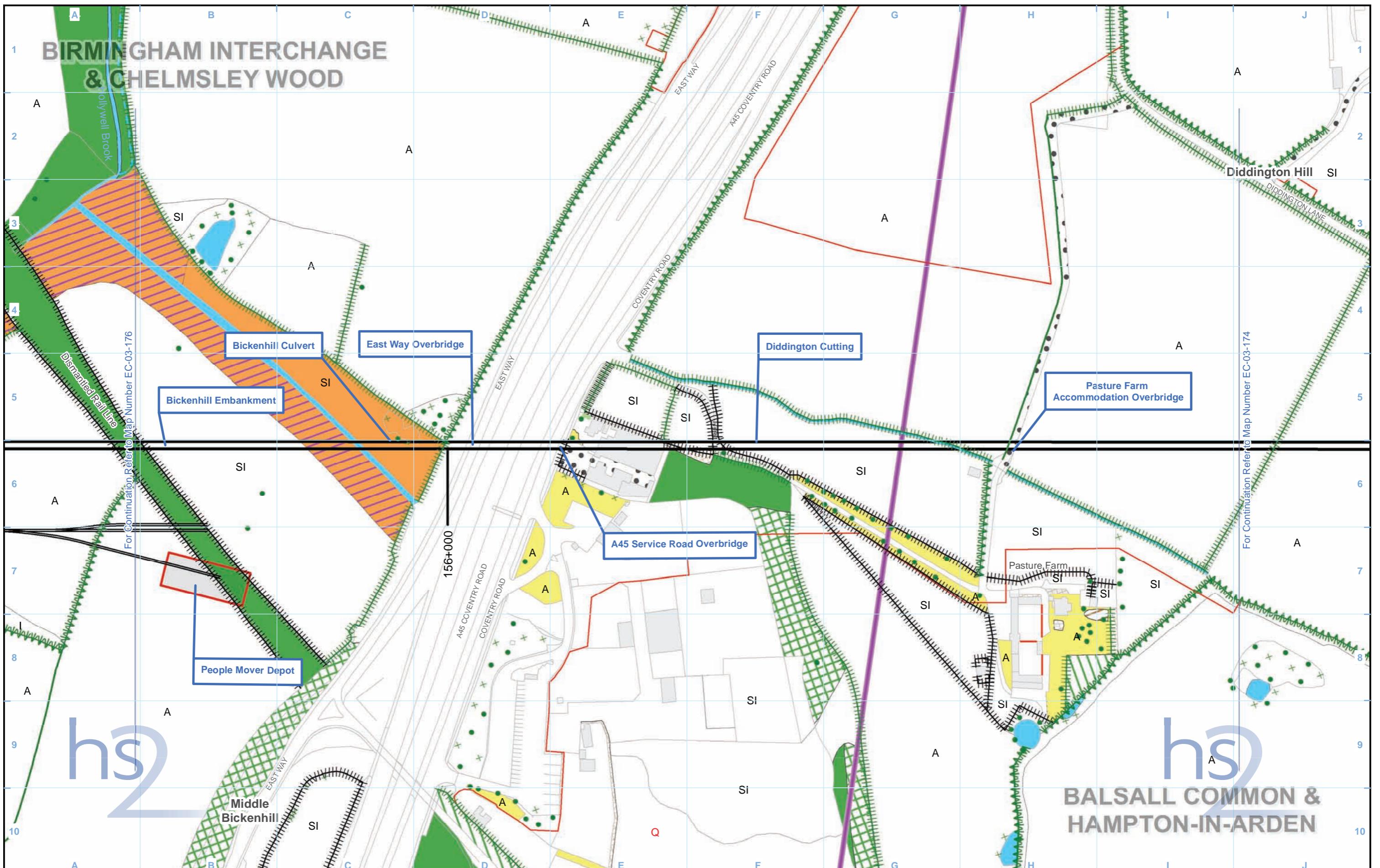
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Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- District/Borough boundary

For full legend please refer to EC-03 - Legend page

For full legend please refer to EC-03 - Legend page

Map Number
EC-03-175b

Map Name
Phase 1 Habitat
(1:2,500)

Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood

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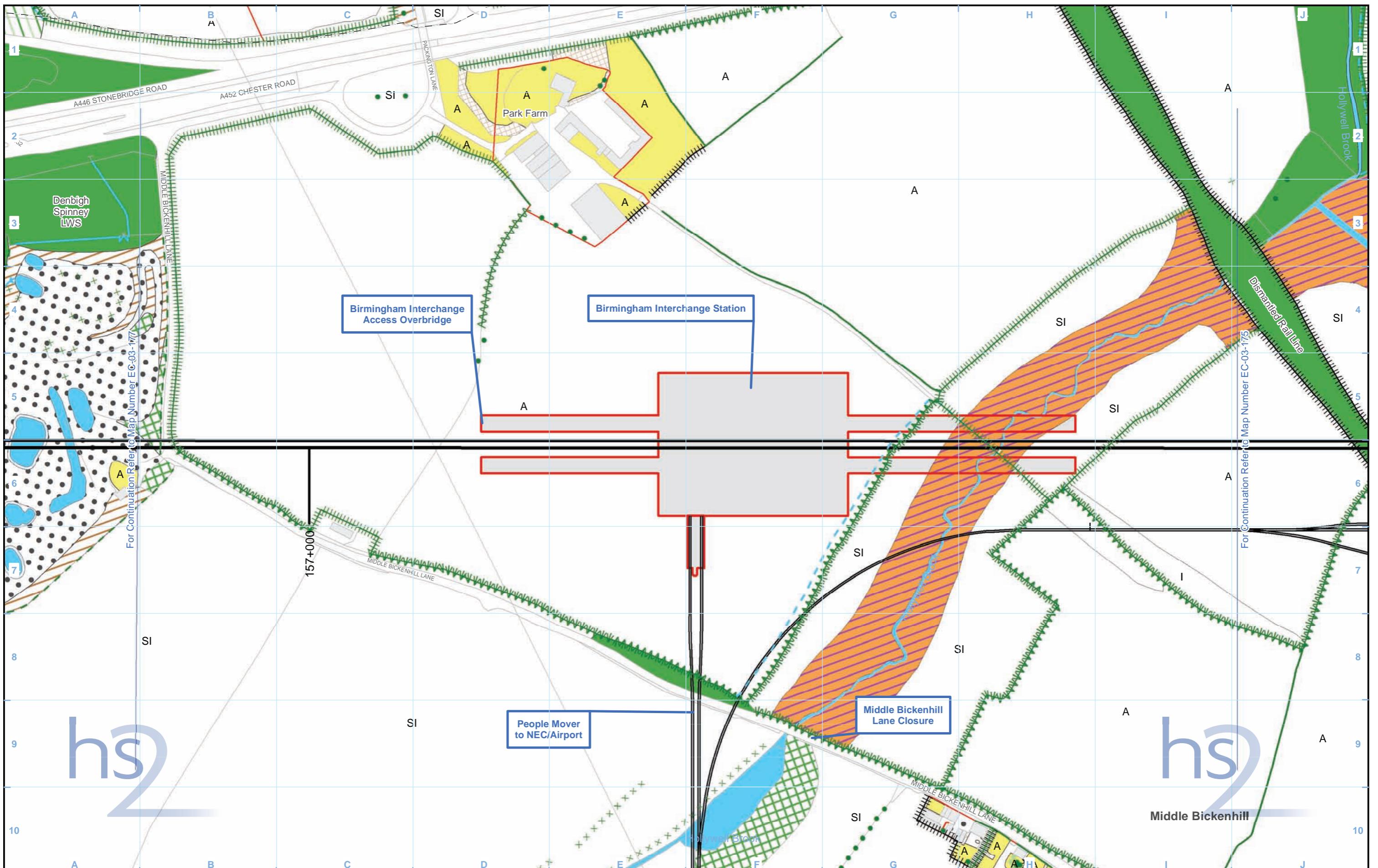
Doc Number: C254-ARP-EV-MAP-040-063275-P06.00



Scale at A3: 1:2,500

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Metres

Date: 28/10/13



Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- District/Borough boundary

For full legend please refer to EC-03 - Legend page

For full legend please refer to EC-03 - Legend page

Map Number
EC-03-176

Phase 1 Habitat
(1:2,500)

Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood



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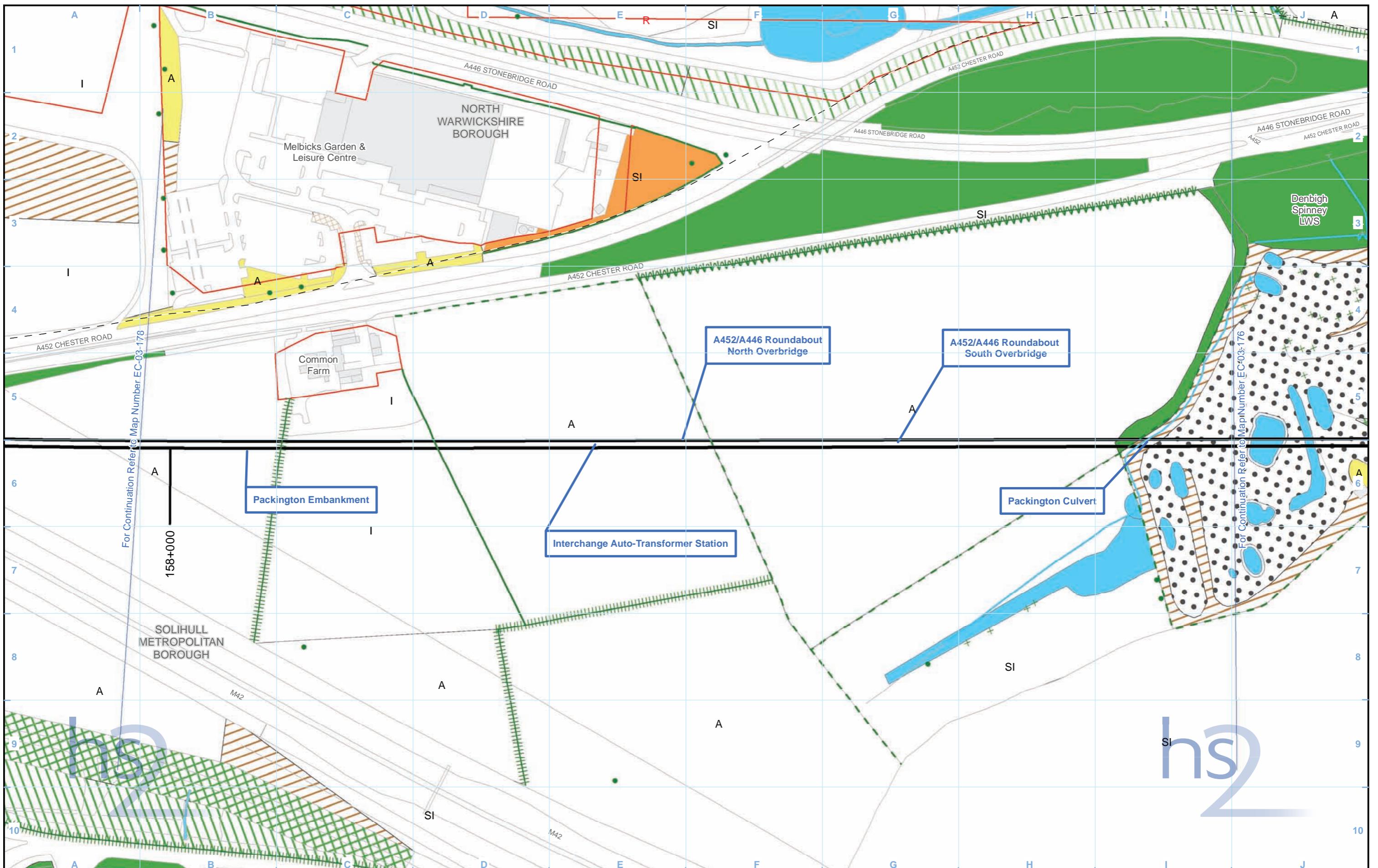
Scale at A3: 1:2,500

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Metres

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Date: 28/10/13



Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- District/Borough boundary

For full legend please refer to EC-03 - Legend page

For full legend please refer to EC-03 - Legend page

Map Number
EC-03-177

Phase 1 Habitat
(1:2,500)

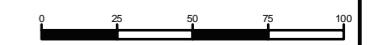
Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood



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Scale at A3: 1:2,500

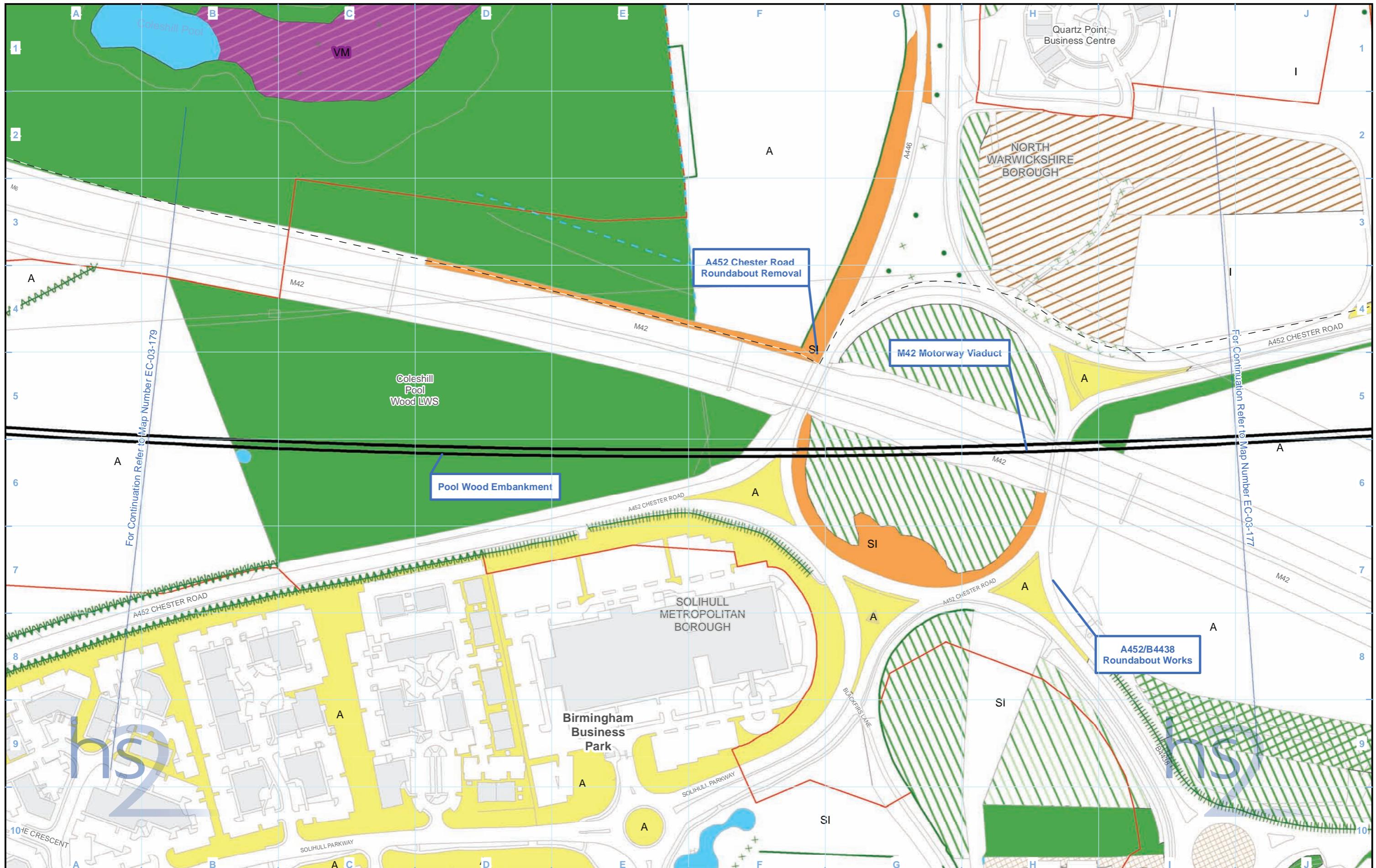


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Date: 25/10/13



Legend

- Route in tunnel
 - Route on surface
 - Depot, station, headhouse or portal building
 - Land potentially required during construction
 - Community forum boundary
 - District/Borough boundary

For full legend please refer to EC-03 - Legend page

Map Num

EC-03-17

Phase 1 Habitat
(1:2,500)

Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood

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Scale at A3: 1:2,500



Date: 25/10/13



Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- District/Borough boundary

For full legend please refer to EC-03 - Legend page

For full legend please refer to EC-03 - Legend page

Map Number
EC-03-179

Map Name
**Phase 1 Habitat
(1:2,500)**

Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood



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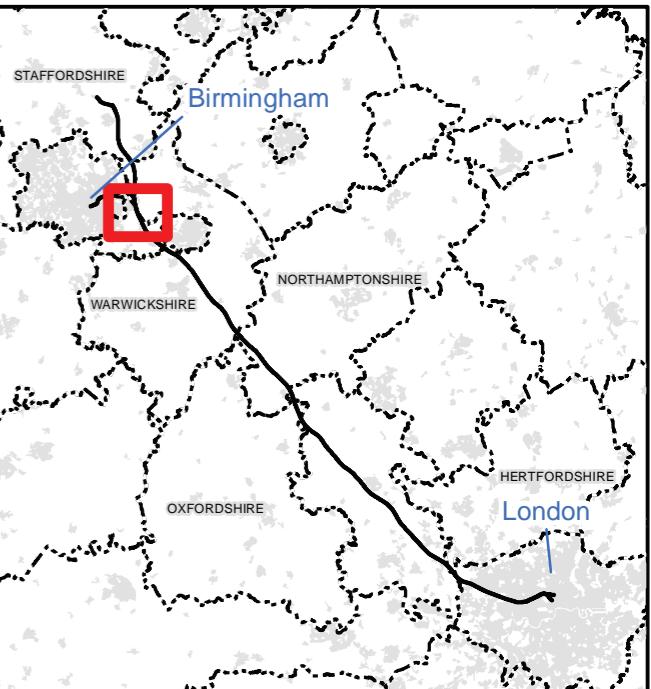
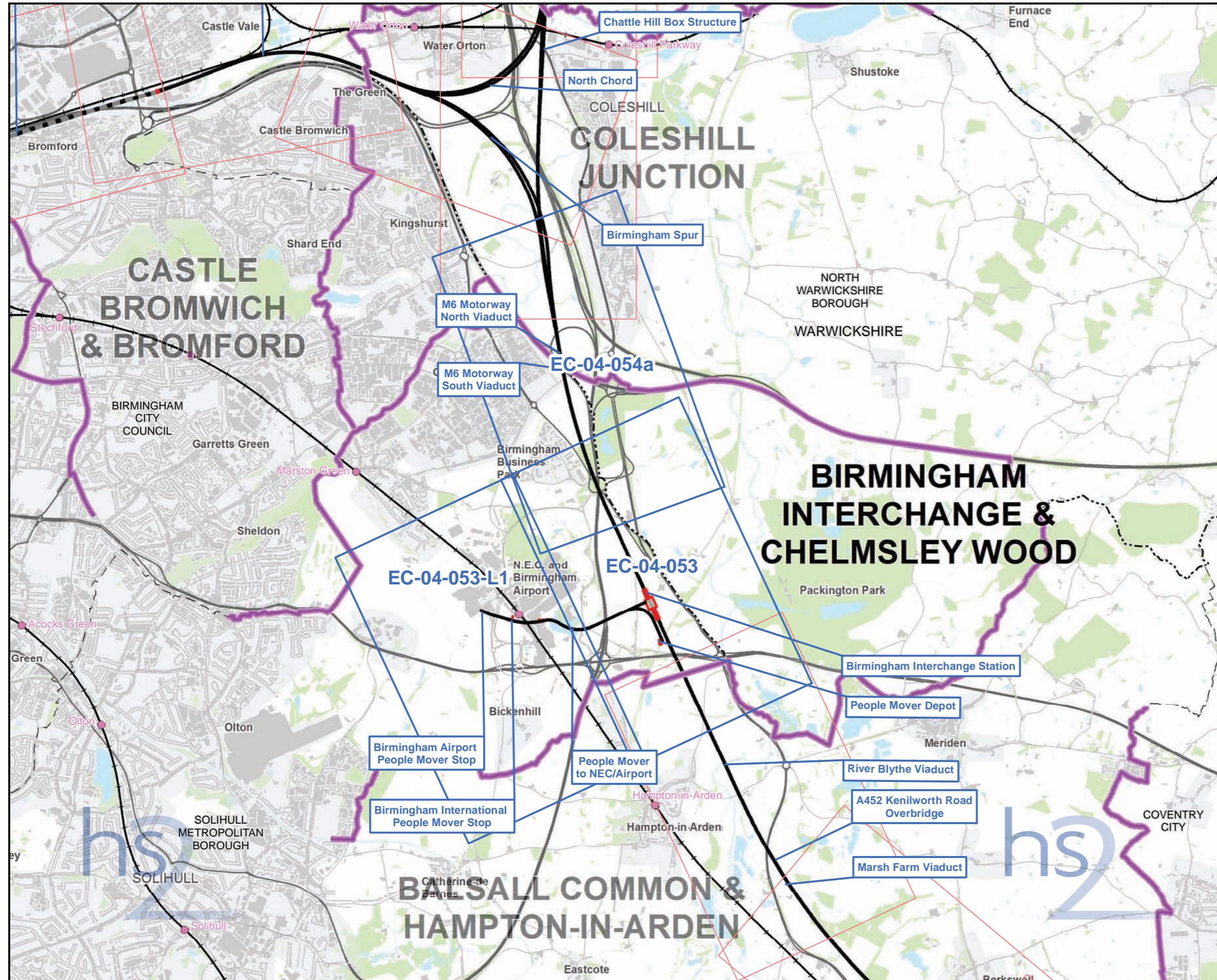
Doc Number: C254-ARP-EV-MAP-040-063179-P06.00

Date: 25/10/13



LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

EC-04 – Amphibians



Main Map Legend	
Route in tunnel	Map sheets included in this community forum
Route on surface	Map sheets not included in this community forum
Depot, station, headhouse or portal building	
Community forum boundary	
Existing railway station	
County boundary	
District/Borough boundary	

Map Number: EC-04-INDEX-CFA24

Map Name: Index Map of: Amphibians

Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood

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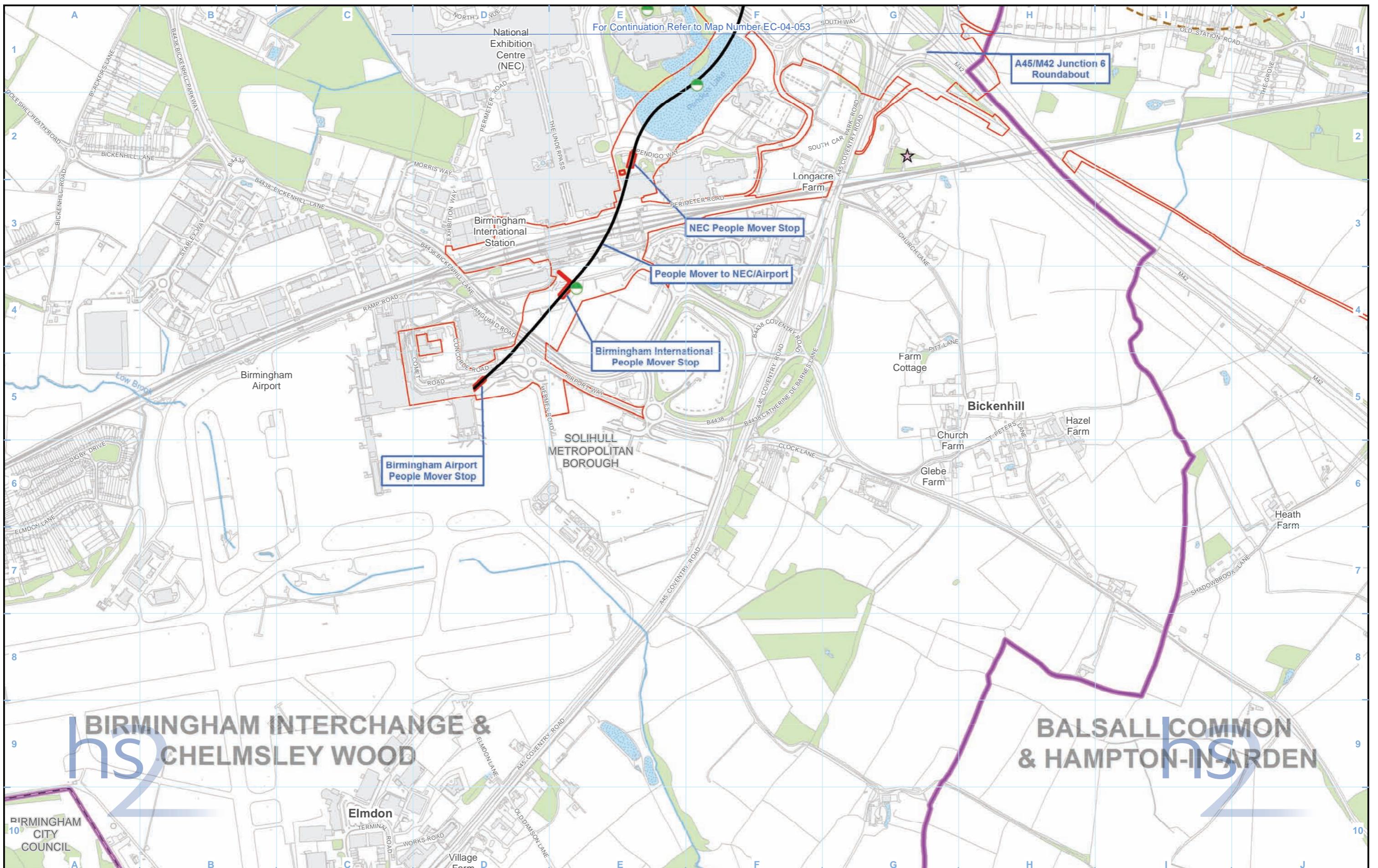
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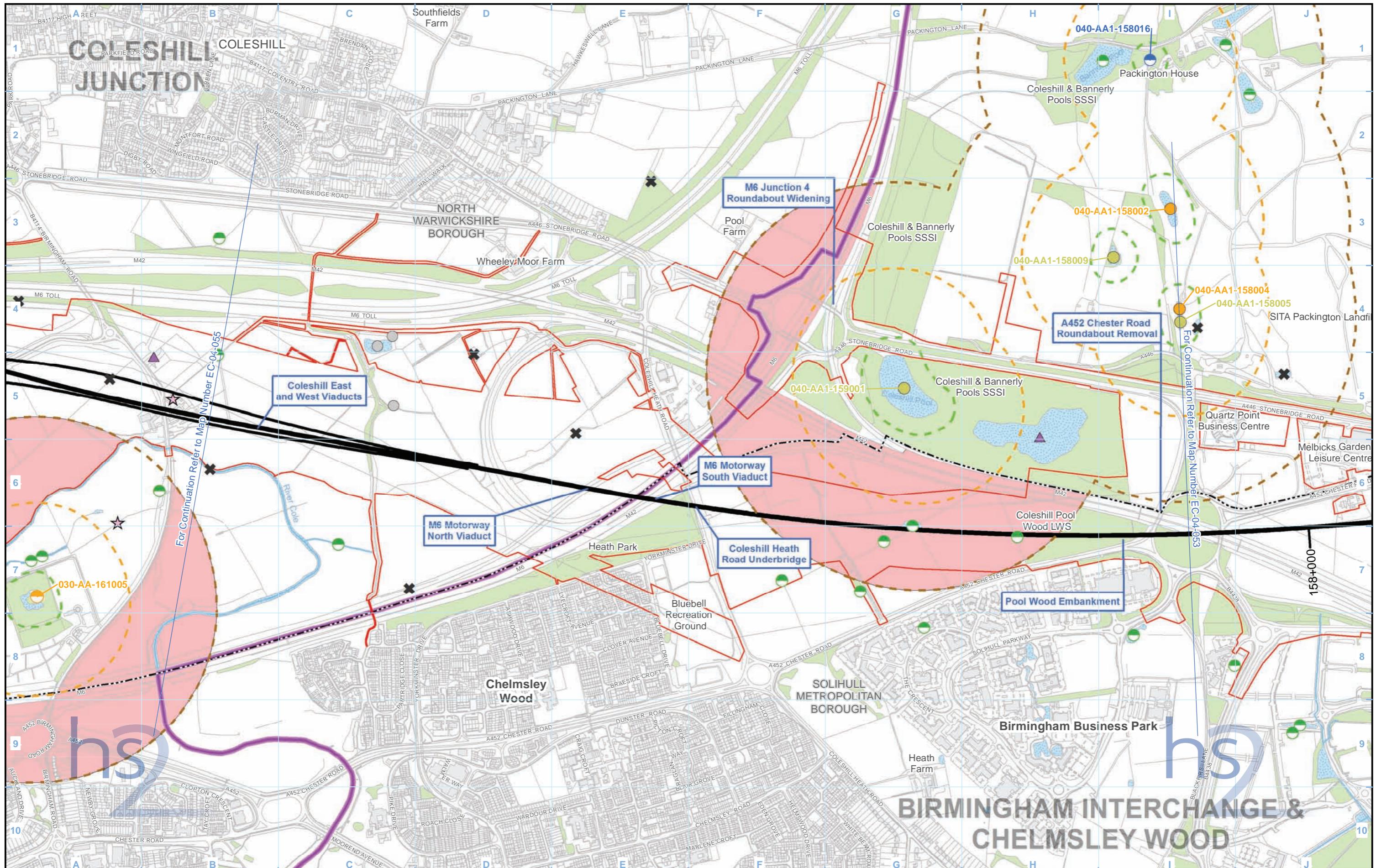
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0 500 1,000 1,500 2,000 Metres

Date: 25/10/13



Map Number EC-04-053-L1 Map Name Amphibians Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood	<p>HS2 Ltd accept no responsibility for any circumstances which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued incomplete in any way.</p> <p>Registered in England. Registration number 06791686. Registered office: Eland House, Bressenden Place, London SW1E 5DU.</p> <p>© Crown copyright and database rights 2013. Ordnance Survey Licence Number 100049190.</p> <p>Scale at A3: 1:10,000</p> <p>0 100 200 300 400 Metres</p>
<p>Doc Number: C254-ARP-EV-MAP-040-064153-P06.00</p>	<p>Date: 28/10/13</p>



Legend

-

-  Survey incomplete, no Great Crested Newts found
-  Scoped in - Habitat Suitability Index (HSI)/walkover only
-  Scoped in - no access permission
-  Scoped out - no survey required

- 50m radius from all water bodies where presence of Great Crested Newt is confirmed
- 250m radius from all water bodies where presence of Great Crested Newt is confirmed
- 500m radius from all water bodies where presence of Great Crested Newt is confirmed

Map Num

EC-04-054a

Amphibians

hs

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Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood

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Date: 28/10/13

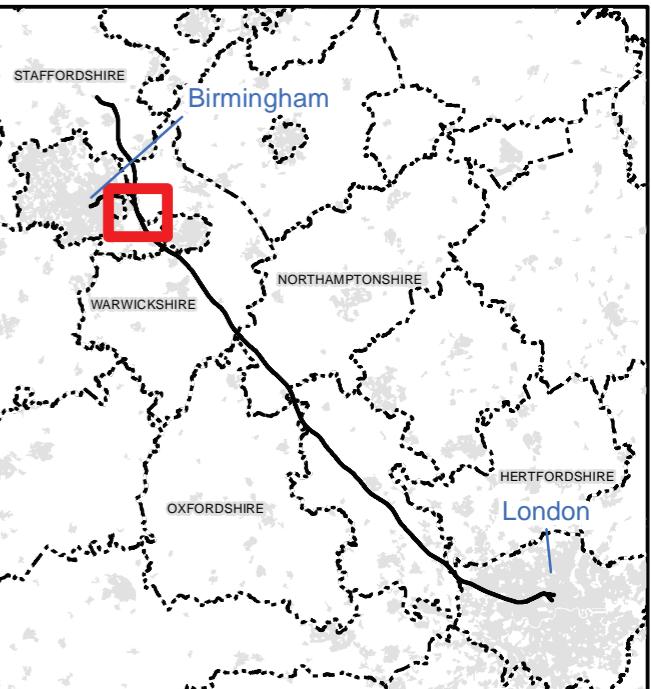
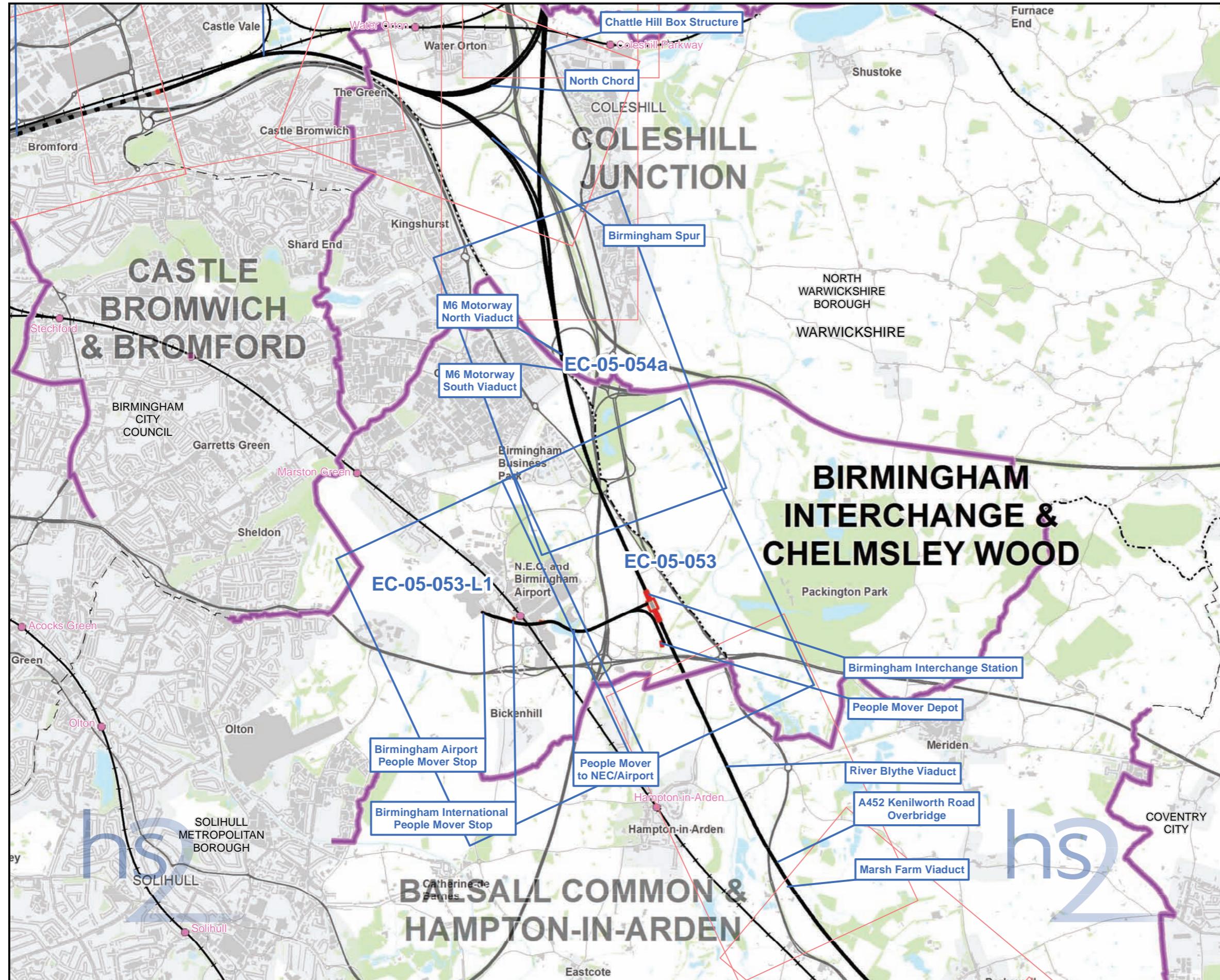


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LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

EC-05 – Bats - Roost



Main Map Legend	
Route in tunnel	Map sheets included in this community forum
Route on surface	Map sheets not included in this community forum
Depot, station, headhouse or portal building	
Community forum boundary	
Existing railway station	
County boundary	
District/Borough boundary	

Map Number: EC-05-INDEX-CFA24

Map Name: Index Map of: Bat - Roost

Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood

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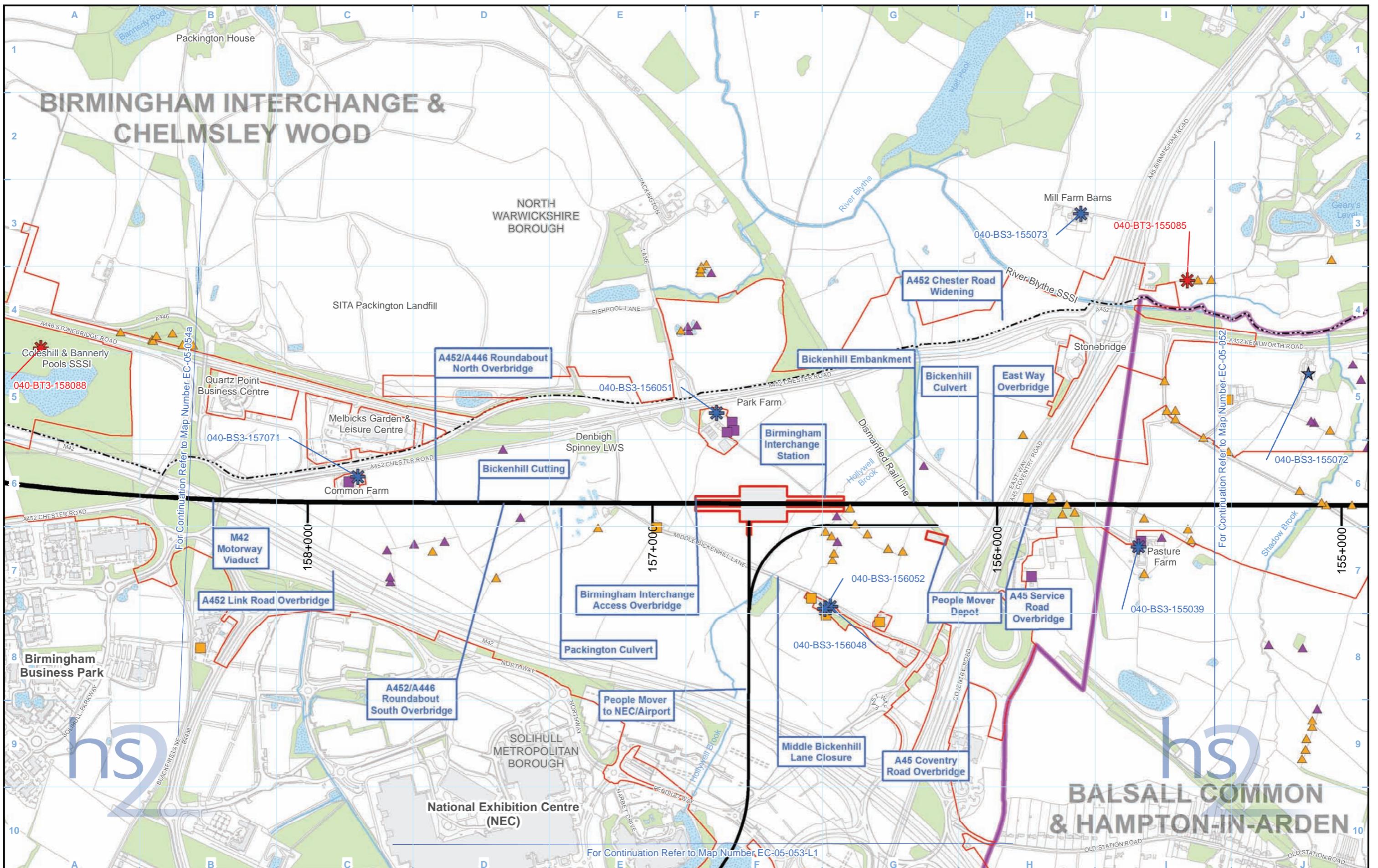
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0 500 1,000 1,500 2,000
Metres

Date: 25/10/13

Doc Number: C254-ARP-EV-MAP-040-565002-P06.00



Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- County boundary
- District/Borough boundary

- Watercourse
- Water body
- Woodland (not verified by survey)

Confirmed bat roost - trees:
◆ Hibernation roost
★ Maternity roost
● Other roost
✖ Multiple roost types

Confirmed bat roost - buildings:
◆ Hibernation roost
★ Maternity roost
● Other roost
✳ Multiple roost types

Potential to support roosting bats - trees:
▲ High
▲ Moderate
★ Maternity roost
■ High
■ Moderate

Map Number	EC-05-053
Map Name	Bat - Roost
Community Forum Area CFA24:	Birmingham Interchange & Chelmsley Wood

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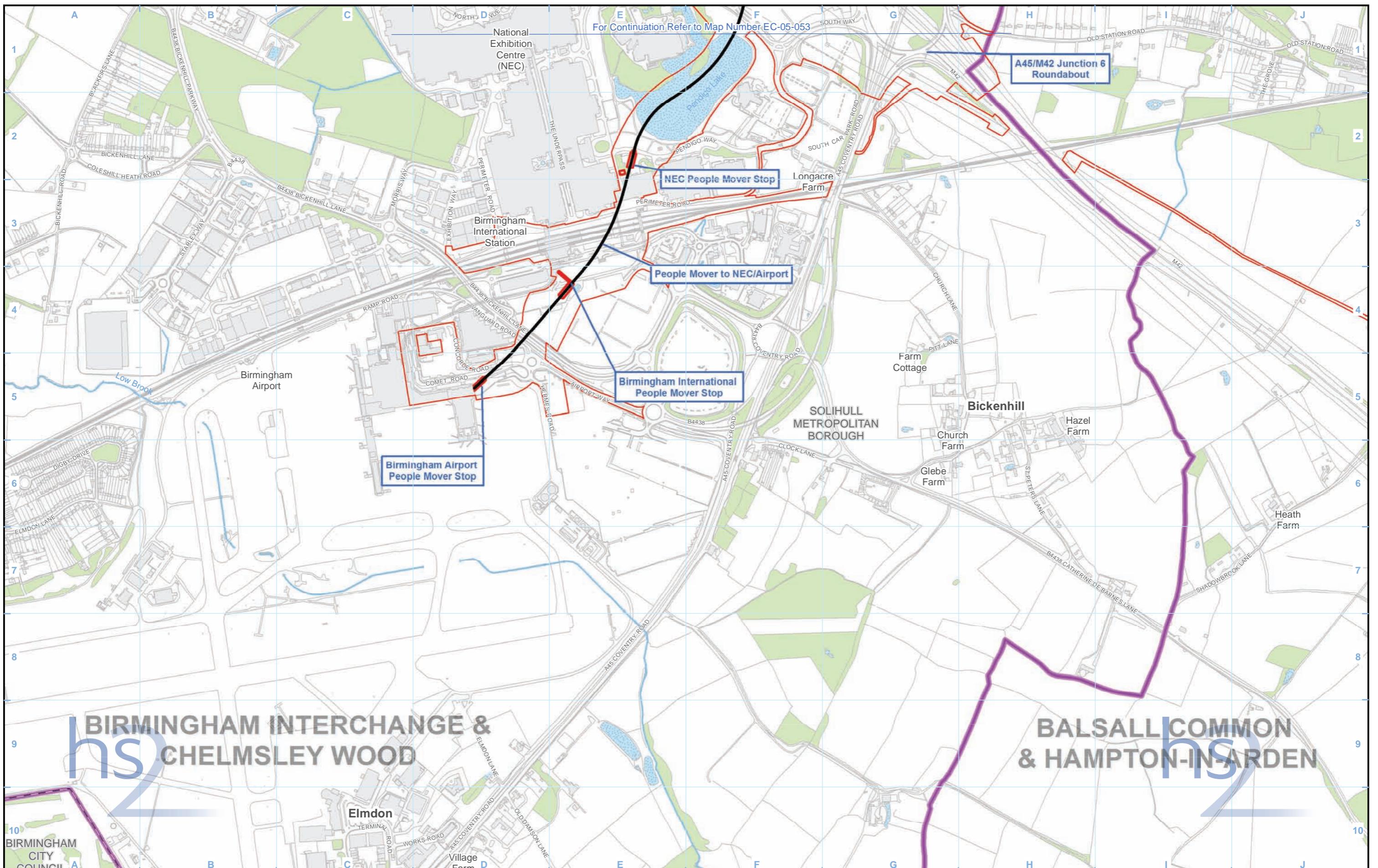
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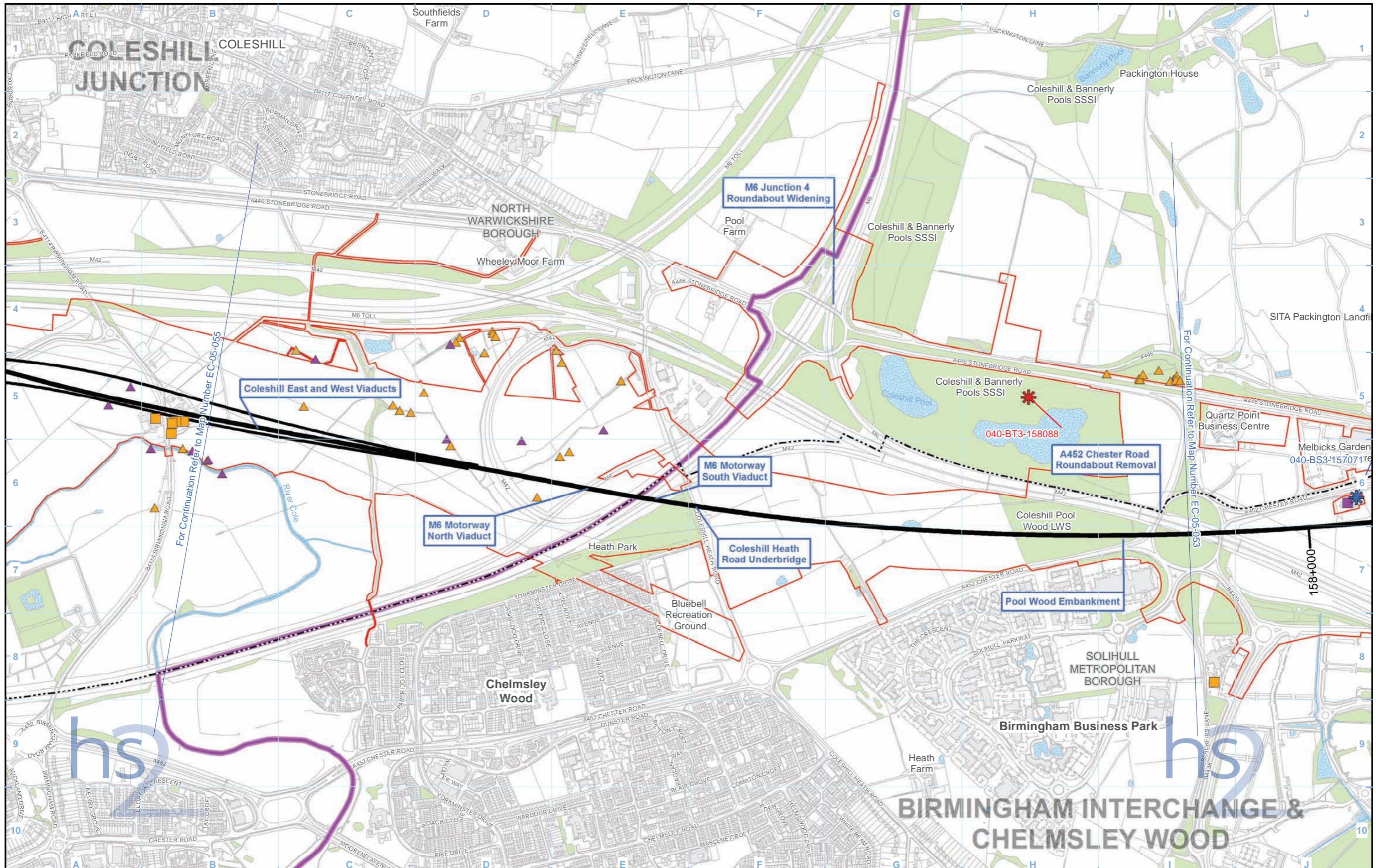
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Date: 28/10/13



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		Date: 28/10/13	



Legend

- Route in tunnel
 - Route on surface
 - Depot, station, headhouse or portal building
 - Land potentially required during construction
 - Community forum boundary
 - County boundary
 - District/Borough boundary

- Watercourse
- Water body
- Woodland (not verified by survey)

- Confirmed bat roost - trees:**

 - ◆ Hibernation roost
 - ★ Maternity roost
 - Other roost
 - ✳ Multiple roost types

Confirmed bat roost

 - ◆ Hibernation roost
 - ★ Maternity roost
 - Other roost
 - ✳ Multiple roost types

- | | |
|------------|---|
| buildings: | Potential to support roosting bats - trees: |
| post | ▲ High |
| st | ▲ Moderate |
| types | Potential to support roosting bats - building |
| | ■ High |
| | ■ Moderate |

Map Num

EC-05-054

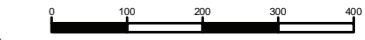
Bat - Roos

Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood

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Scale at A3: 1:10,000



Date: 28/10/13

6.00

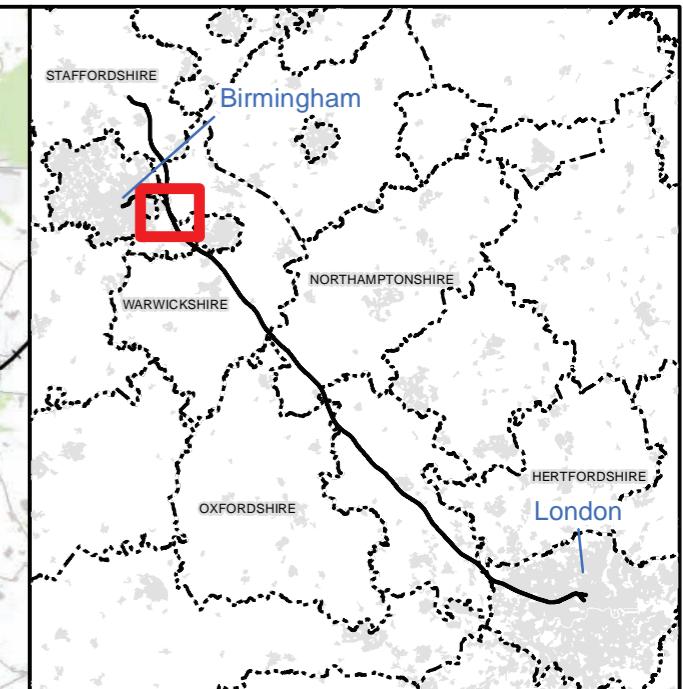
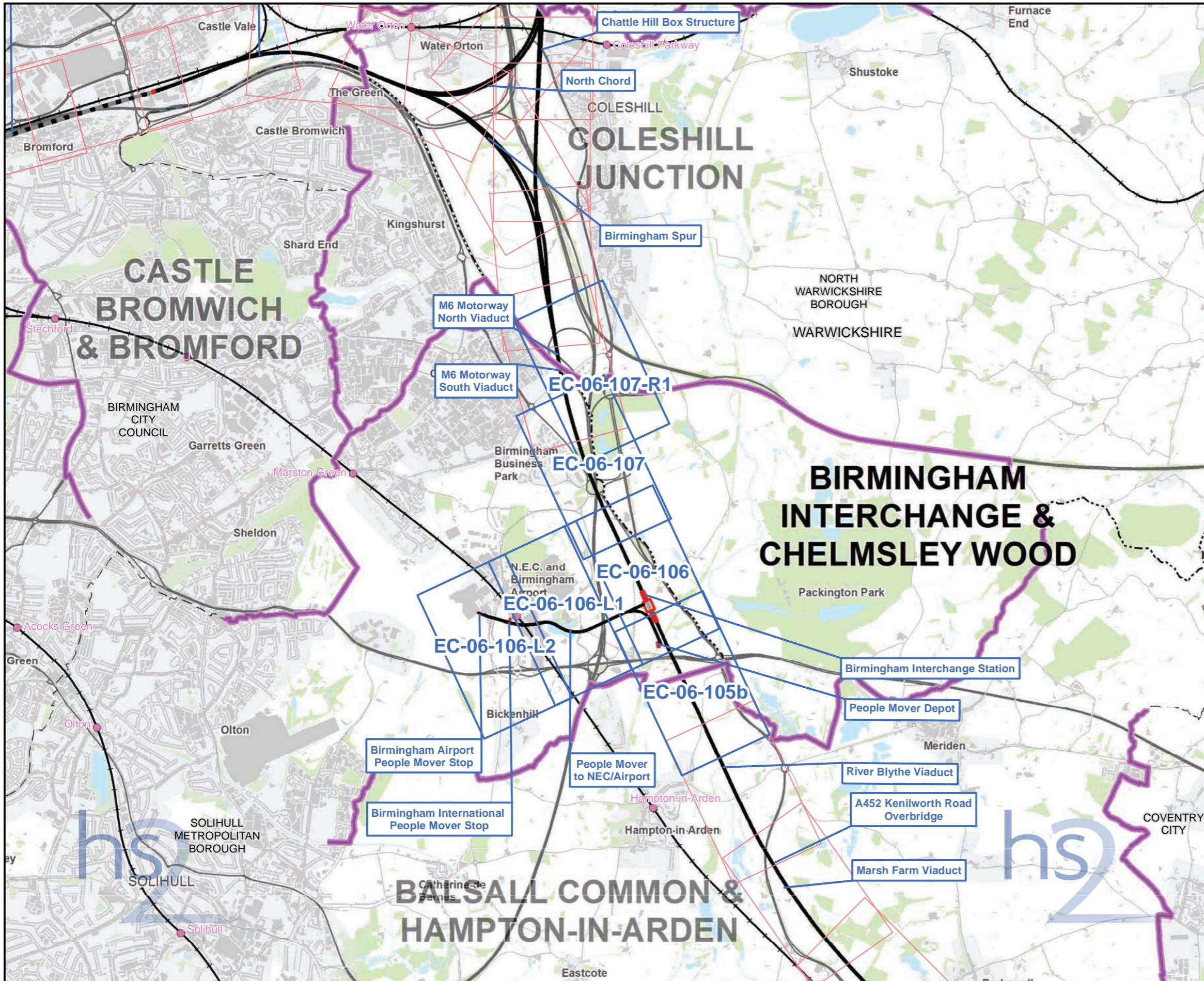


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LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

EC-o6 – Bats – Activity



Map Series Information:

This map series shows the location of bat activity surveys conducted to inform the Environmental Statement.

In addition it shows the location of the key bat foraging and commuting routes which have been established on the basis of the survey work conducted.

Note: Not all data layers in the legend are represented on every map.

Main Map Legend	
Route in tunnel	Map sheets included in this community forum
Route on surface	Map sheets not included in this community forum
Depot, station, headhouse or portal building	
Community forum boundary	
Existing railway station	
County boundary	
District/Borough boundary	

Map Number: EC-06-INDEX-CFA24

Map Name: Index Map of: Bat - Activity

Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood

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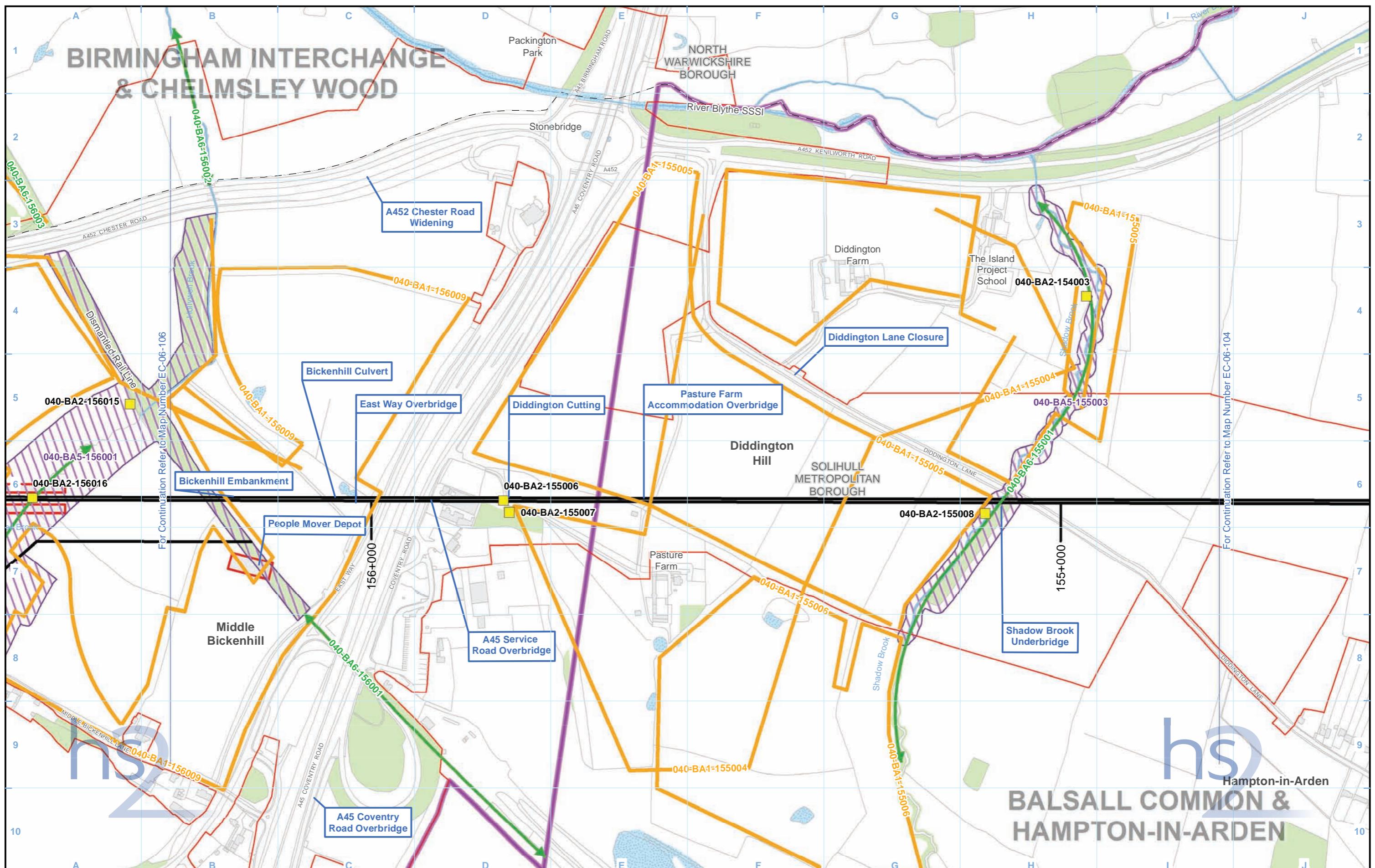
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0 500 1,000 1,500 2,000
Metres

Date: 25/10/13

Doc Number: C254-ARP-EV-MAP-040-566002-P06.00

BIRMINGHAM INTERCHANGE & CHELMSLEY WOOD



BALSALL COMMON & HAMPTON-IN-ARDEN

Legend	
Route in tunnel	Watercourse
Route on surface	Water body
Depot, station, headhouse or portal building	Woodland (verified by survey)
Land potentially required during construction	Bat activity static detector location
Community forum boundary	Activity transect route
District/Borough boundary	Assumed key commuting route
	Assumed key area of foraging habitat

Map Number
EC-06-105a

Map Name
Bat - Activity

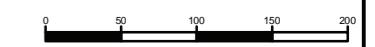
Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood



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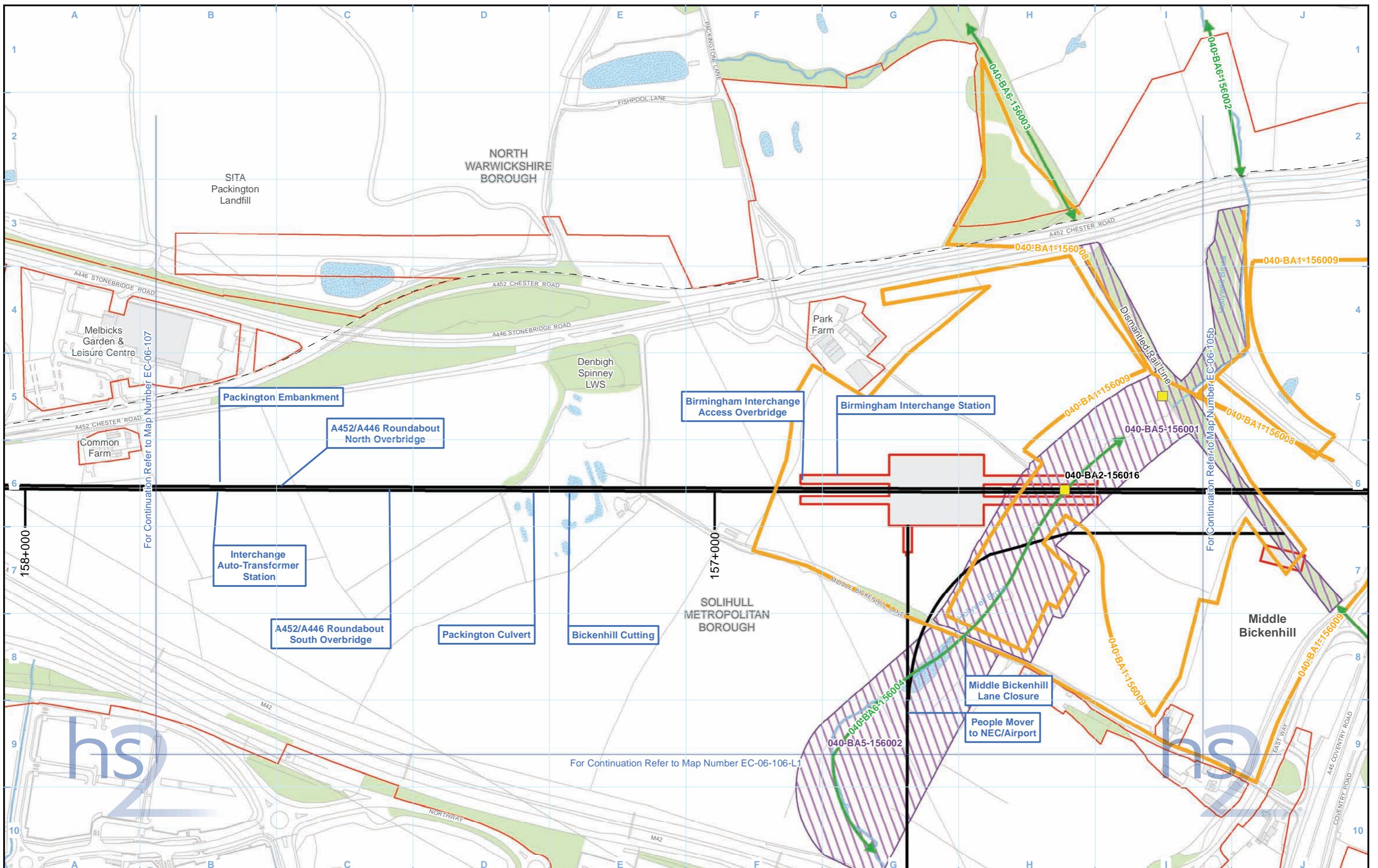
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Doc Number: C254-ARP-EV-MAP-040-066105-P06.00

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Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- District/Borough boundary
- Watercourse
- Water body
- Woodland (verified by survey)
- Bat activity static detector location
- Activity transect route
- Assumed key commuting route
- Assumed key area of foraging habitat

Map Number: EC-06-106

Map Name: Bat - Activity

Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood

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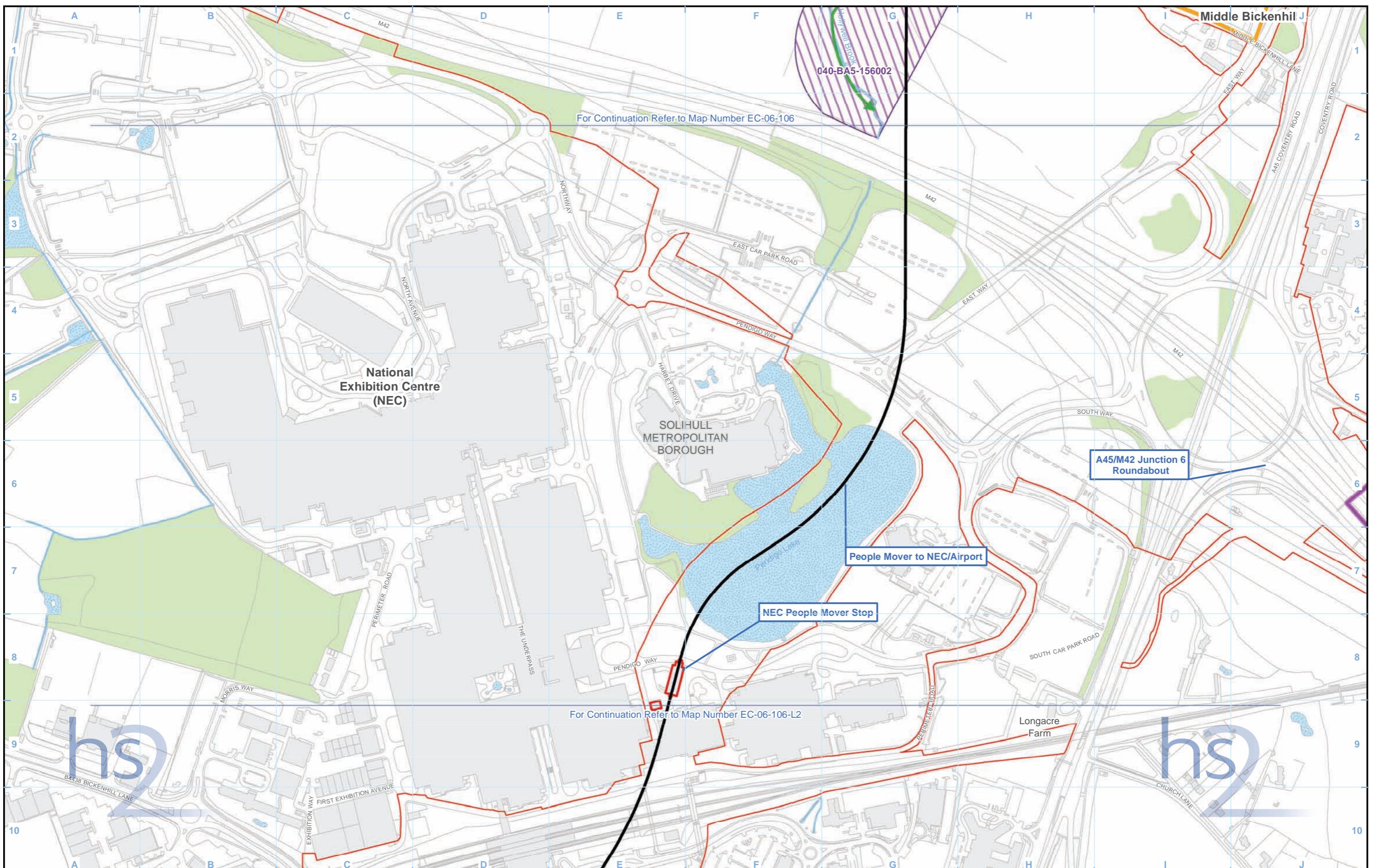
Doc Number: C254-ARP-EV-MAP-040-066106-P06.00

Date: 28/10/13



Scale at A3: 1:5,000

0 50 100 150 200 Metres



Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- District/Borough boundary
- Watercourse
- Water body
- Woodland (verified by survey)
- Bat activity static detector location
- Activity transect route
- ↔ Assumed key commuting route
- Assumed key area of foraging habitat

Map Number	EC-06-106-L1
Map Name	Bat - Activity
Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood	
Doc Number: C254-ARP-EV-MAP-040-066206-P06.00 Date: 28/10/13	

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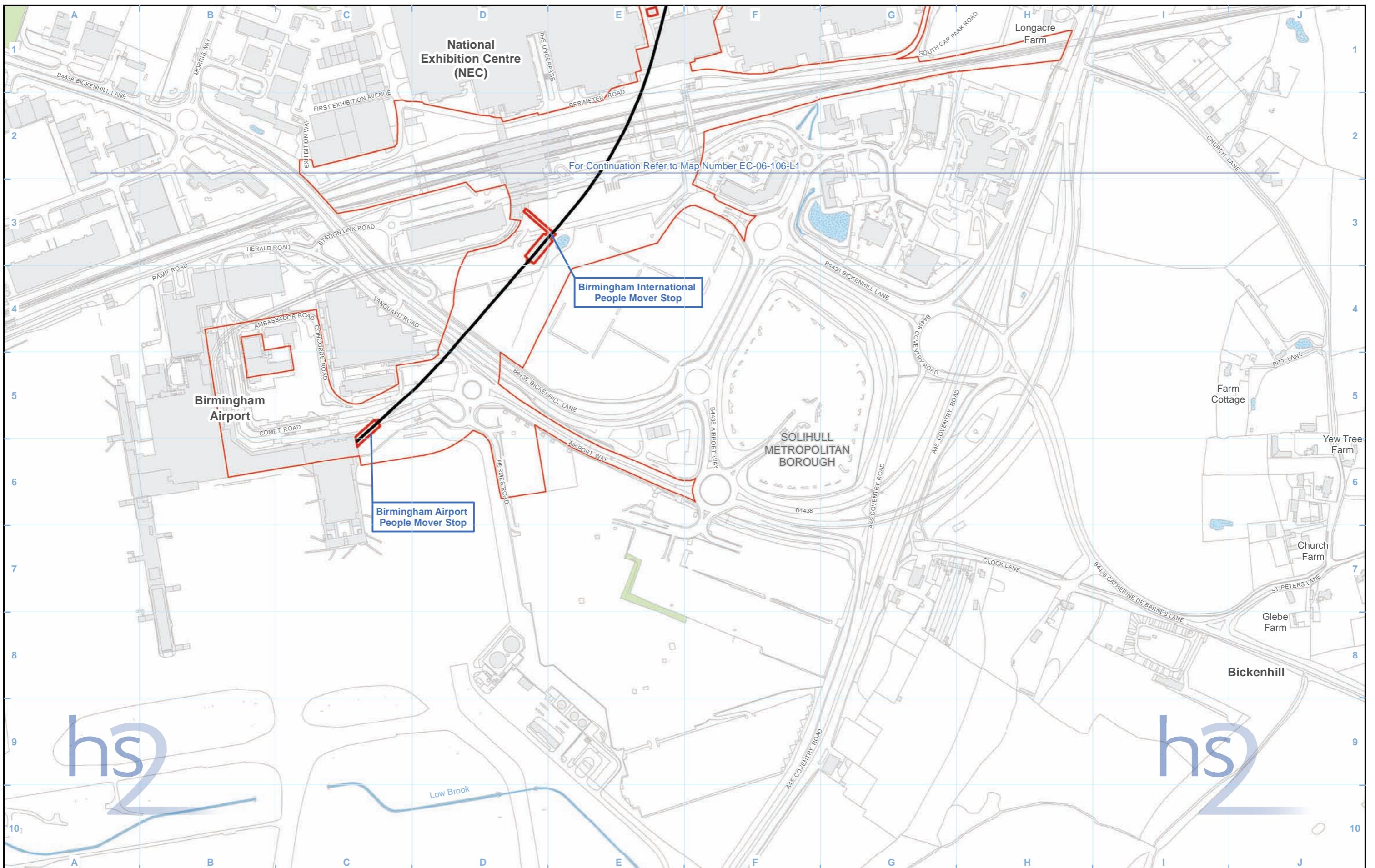
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Scale at A3: 1:5,000

0 50 100 150 200 Metres

Date: 28/10/13



Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- District/Borough boundary

- Watercourse
- Water body
- Assumed key commuting route
- Assumed key area of foraging habitat

- Bat activity static detector location
- Activity transect route
- Woodland (verified by survey)

Map Number: EC-06-106-L2

Map Name: Bat - Activity

Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood



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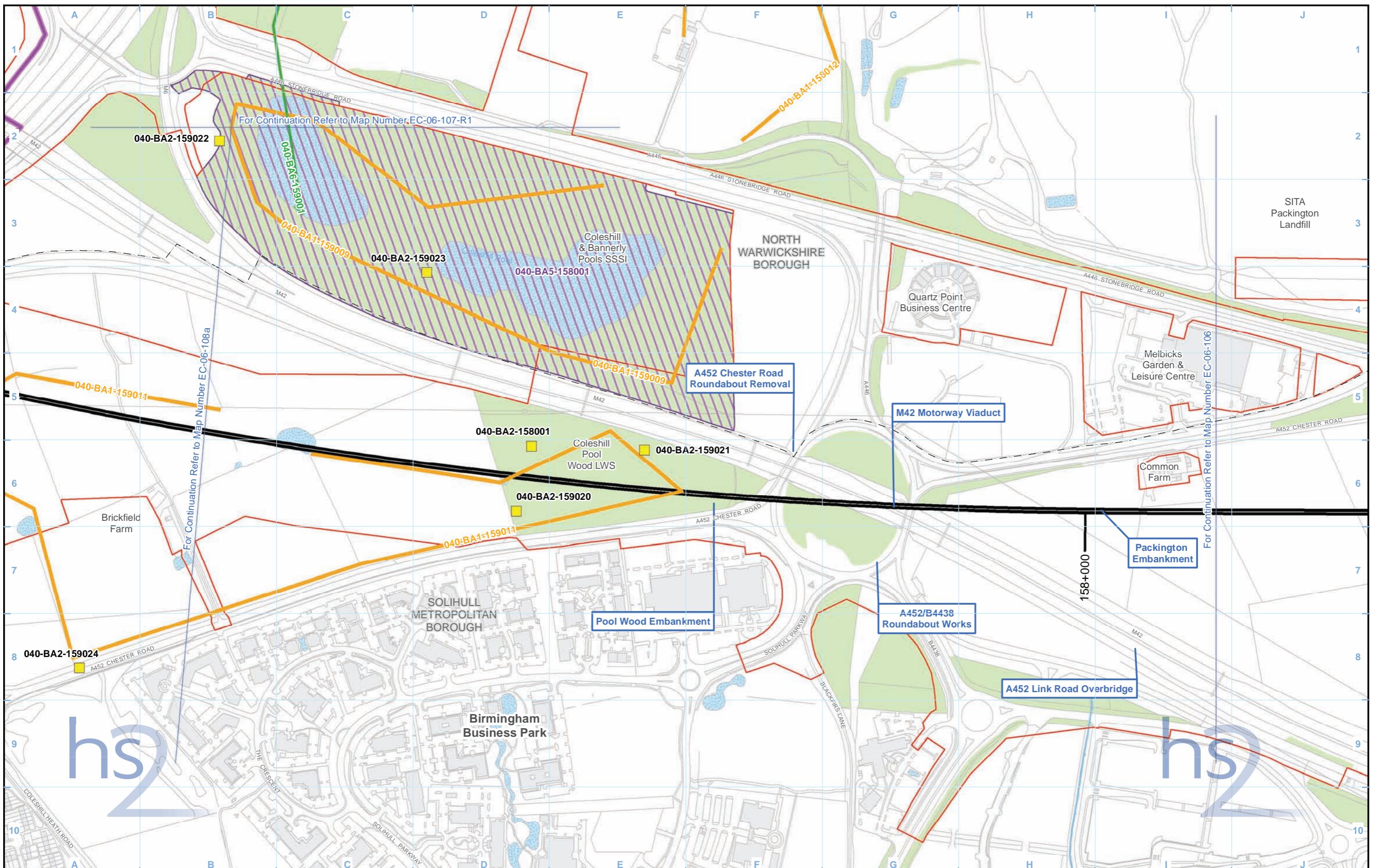


Scale at A3: 1:5,000

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Metres

Doc Number: C254-ARP-EV-MAP-040-066306-P06.00

Date: 28/10/13



Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- District/Borough boundary
- Watercourse
- Water body
- Assumed key commuting route
- Assumed key area of foraging habitat
- Bat activity static detector location
- Woodland (verified by survey)
- Activity transect route
- Assumed key area of foraging habitat

Map Number: EC-06-107

Map Name: Bat - Activity

Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood

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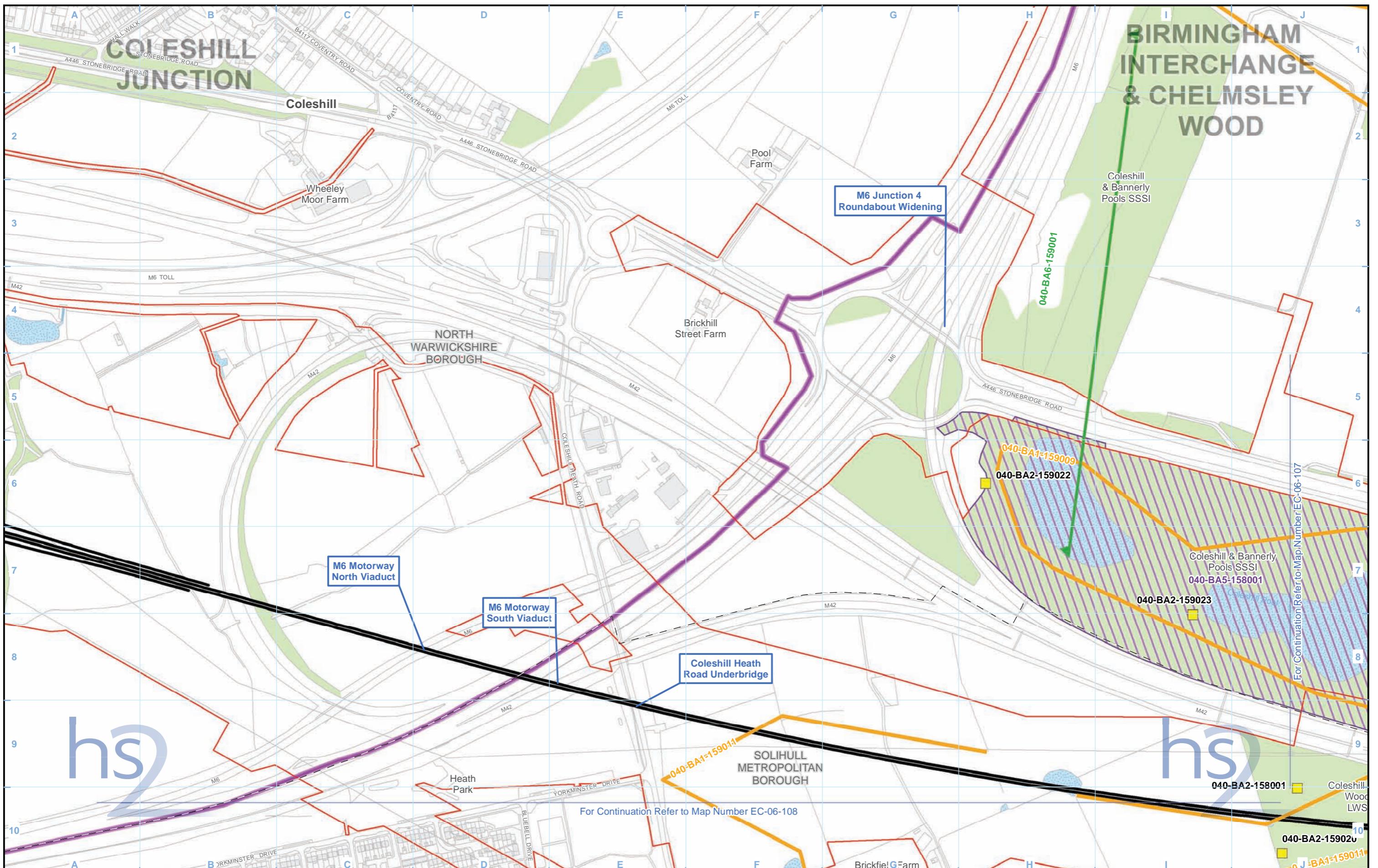
Scale at A3: 1:5,000

0 50 100 150 200 Metres

Doc Number: C254-ARP-EV-MAP-040-066107-P06.00

Date: 28/10/13





Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- District/Borough boundary
- Watercourse
- Water body
- Woodland (verified by survey)
- Assumed key commuting route
- Assumed key area of foraging habitat

- Bat activity static detector location
- Activity transect route
- Assumed key commuting route
- Assumed key area of foraging habitat

Map Number	EC-06-107-R1
Map Name	Bat - Activity
Community Forum Area CFA24:	Birmingham Interchange & Chelmsley Wood



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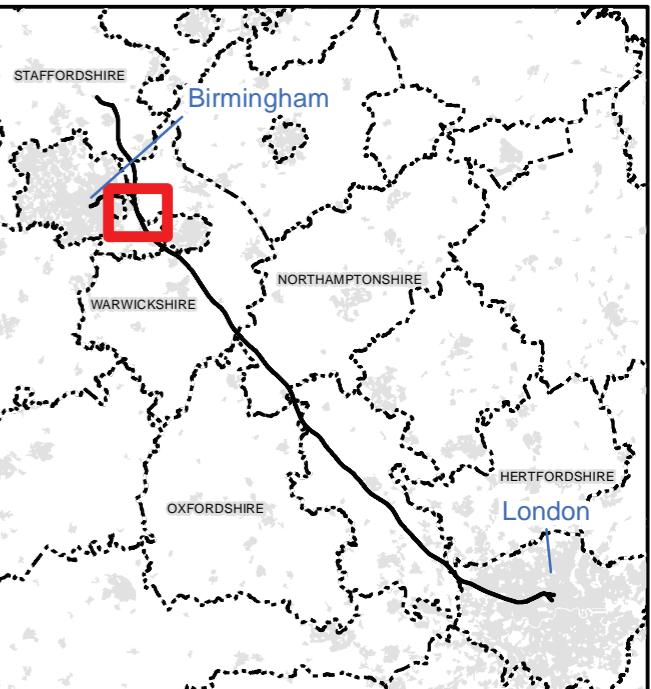
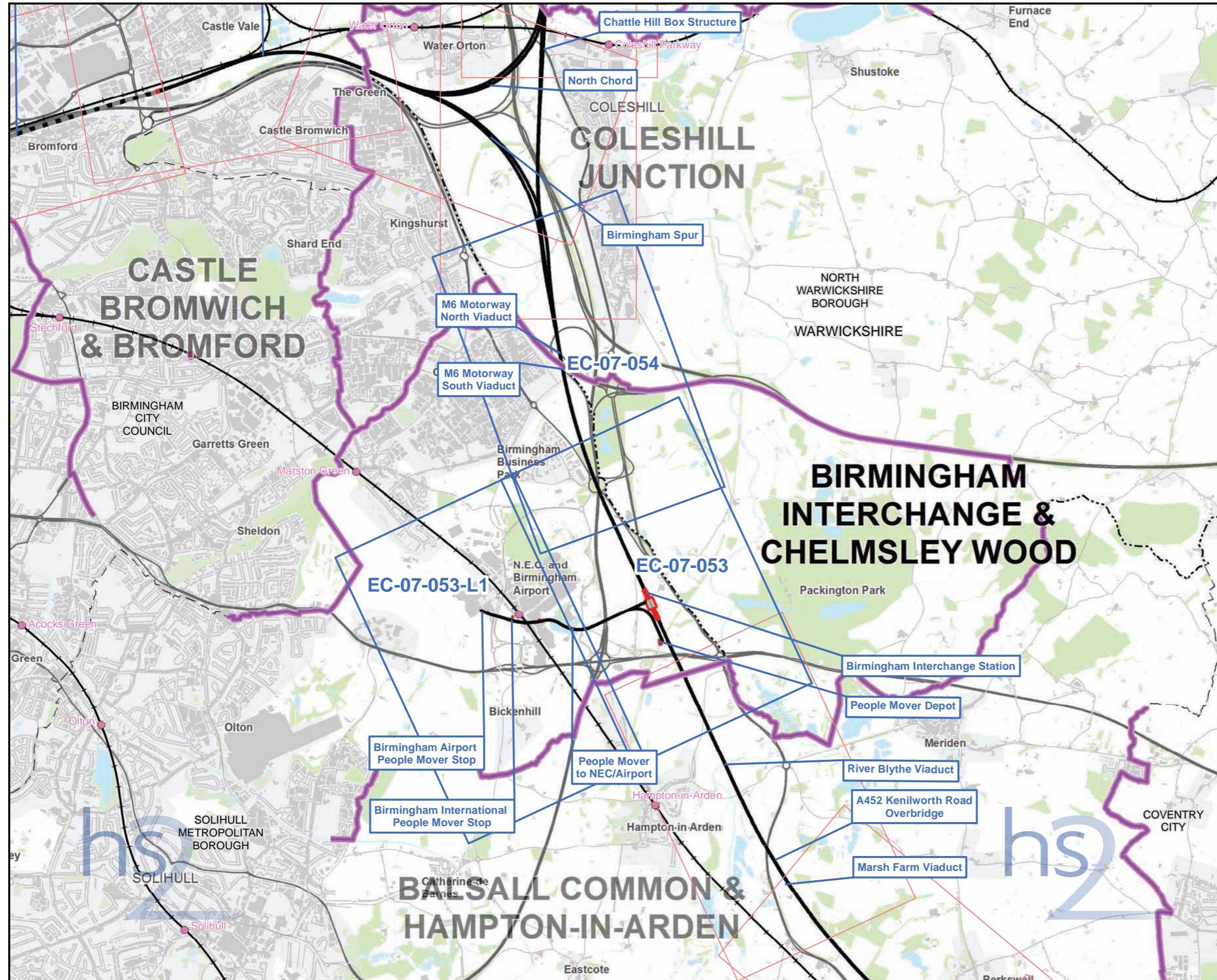
Scale at A3: 1:5,000
0 50 100 150 200 Metres

Date: 29/10/13



LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

EC-07 – Reptiles



Main Map Legend	
Route in tunnel	Map sheets included in this community forum
Route on surface	Map sheets not included in this community forum
Depot, station, headhouse or portal building	
Community forum boundary	
Existing railway station	
County boundary	
District/Borough boundary	

Map Number: EC-07-INDEX-CFA24

Map Name: Index Map of:
Reptiles

Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood

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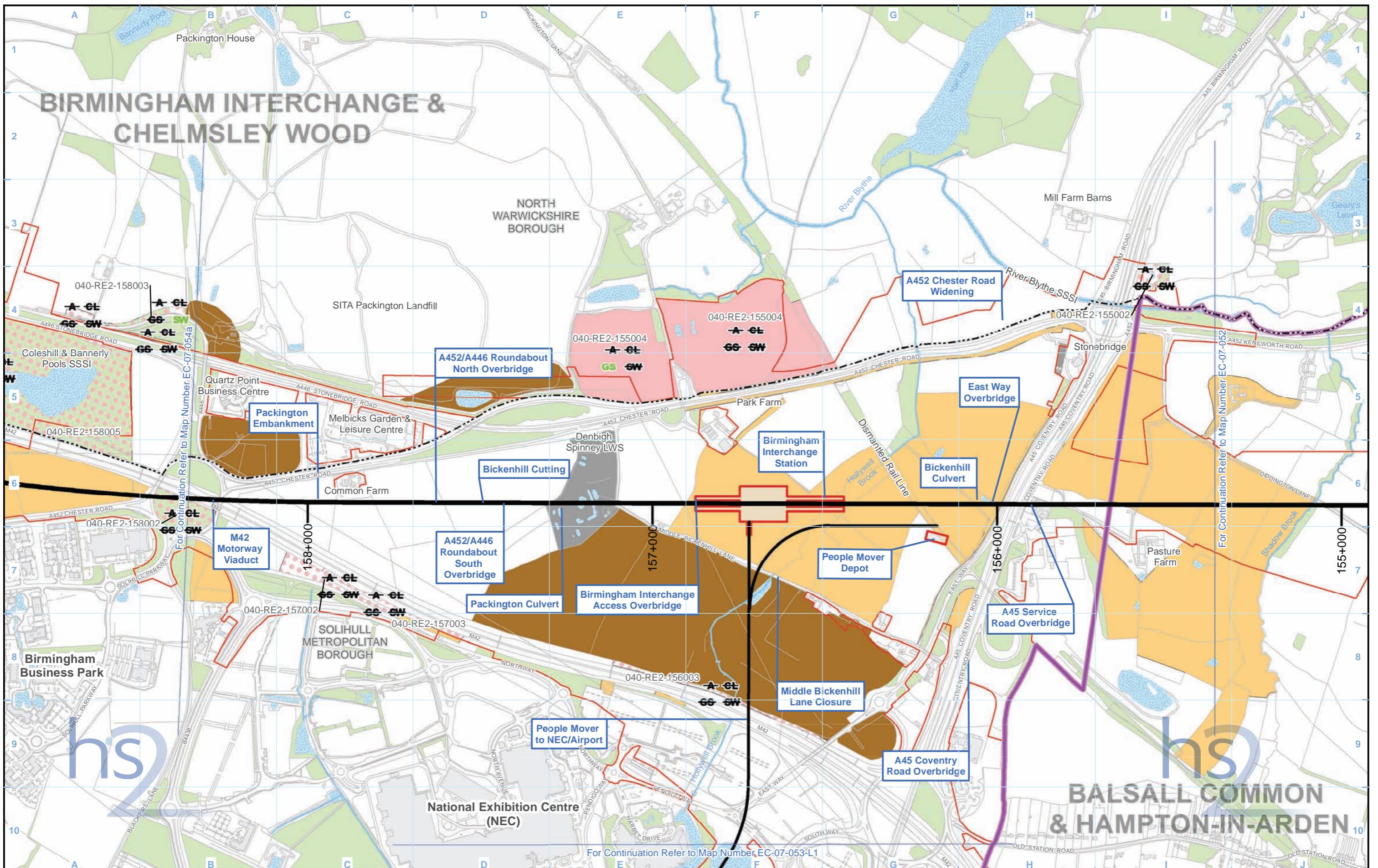
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0 500 1,000 1,500 2,000
Metres

Date: 25/10/13

Doc Number: C254-ARP-EV-MAP-040-567002-P06.00



Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- County boundary
- District/Borough boundary

- Watercourse
- Water body

- Population size class survey - visits completed
- Population size class survey - incomplete

- Population size class assessment:
- Adder: Common lizard: Grass snake: Slow worm:
- A High CL High GS High SW High
- A Medium CL Medium GS Medium SW Medium
- A Low CL Low GS Low SW Low
- A Absent CL Absent GS Absent SW Absent

- Presence/absence survey conducted - reptiles assumed absent

- Scoping visit only - scoped out

- Scoping visit conducted - habitat suitable but no further survey conducted

- Woodland (not verified by survey)

- Scoping visit conducted - habitat suitable but no further survey conducted

- Community forum Area CFA24: Birmingham Interchange & Chelmsley Wood

- Map Number

- Map Name

- Map Scale

- Map Date

- Map Number

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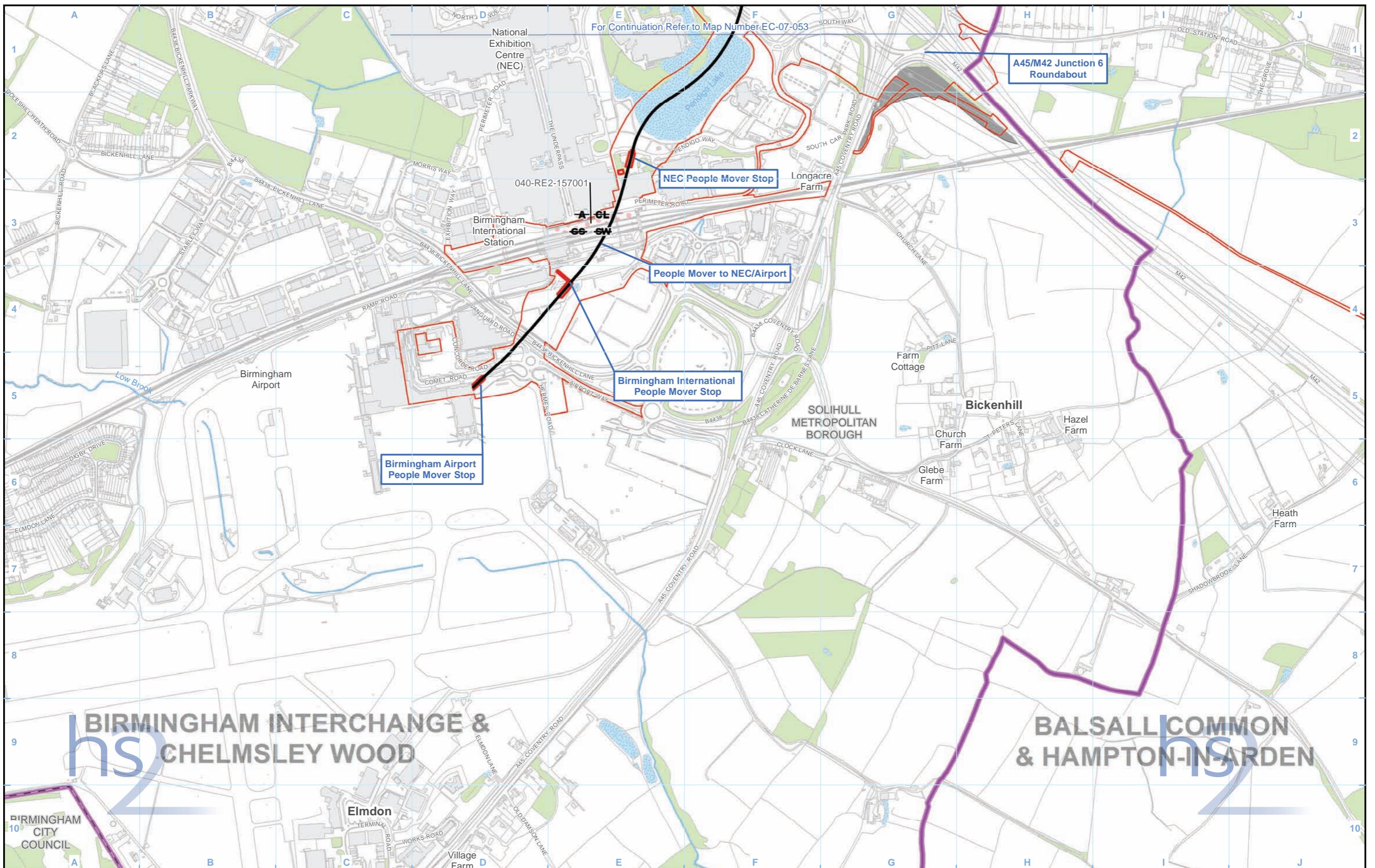
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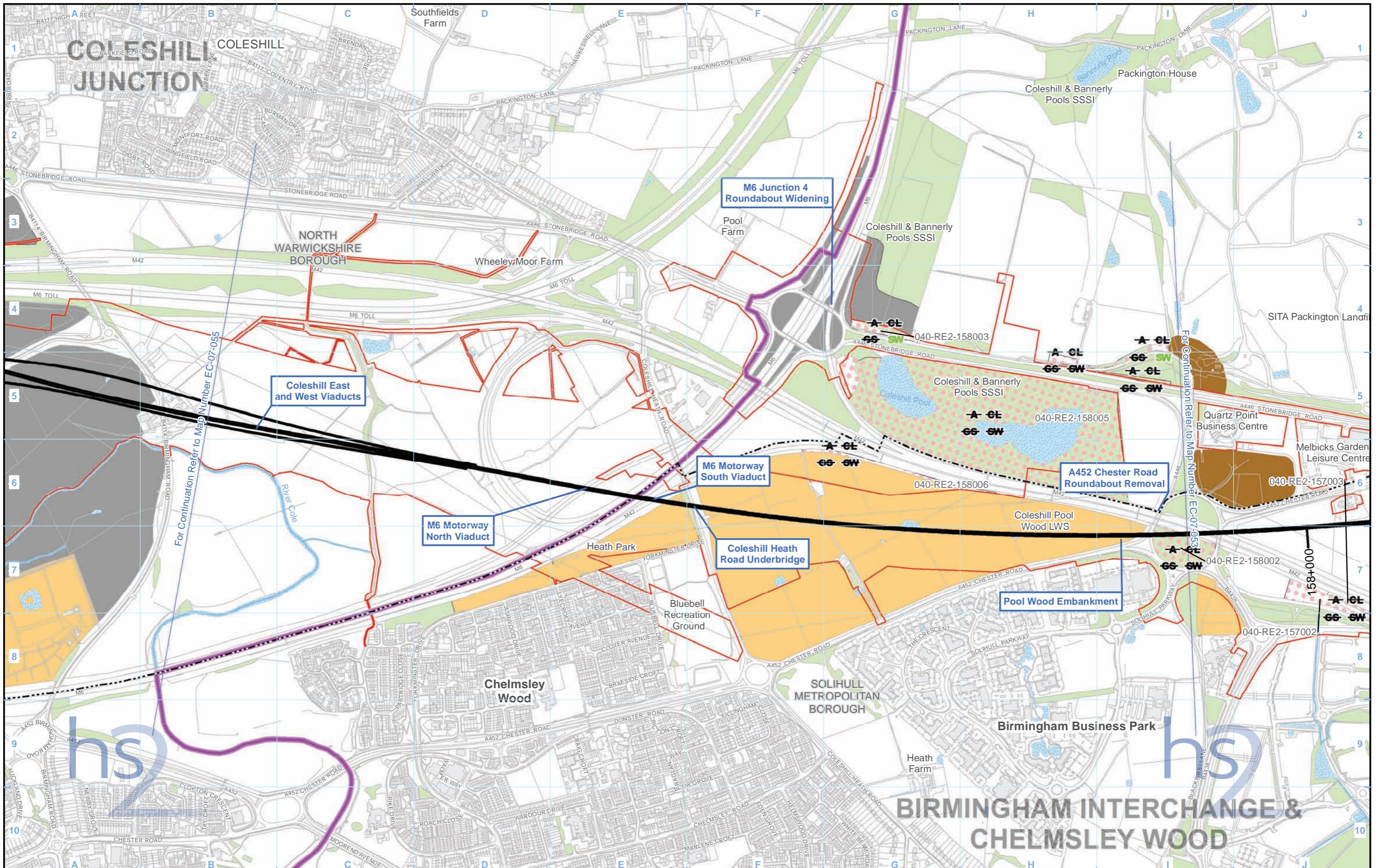
- Map Name

- Map Scale

- Map Date



Map Number	EC-07-053-L1	hs
Map Name	Reptiles	HS2 Ltd accept no responsibility for any circumstances which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued incomplete in any way.
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		0 100 200 300 400 Metres
		Date: 28/10/13



Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- County boundary
- District/Borough boundary

Watercourse
Water body

Population size class survey - visits completed
Population size class survey - incomplete

Population size class assessment:
Adder: Common lizard: Grass snake: Slow worm:
A High CL High GS High SW High
A Medium CL Medium GS Medium SW Medium
A Low CL Low GS Low SW Low
A Absent CL Absent GS Absent SW Absent

Presence/absence survey conducted - reptiles assumed absent

Scoping visit only - scoped out

Scoping visit conducted - habitat suitable but no further survey conducted

Map Number **EC-07-054a**
Map Name **Reptiles**

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0 100 200 300 400 Metres

Date: 28/10/13

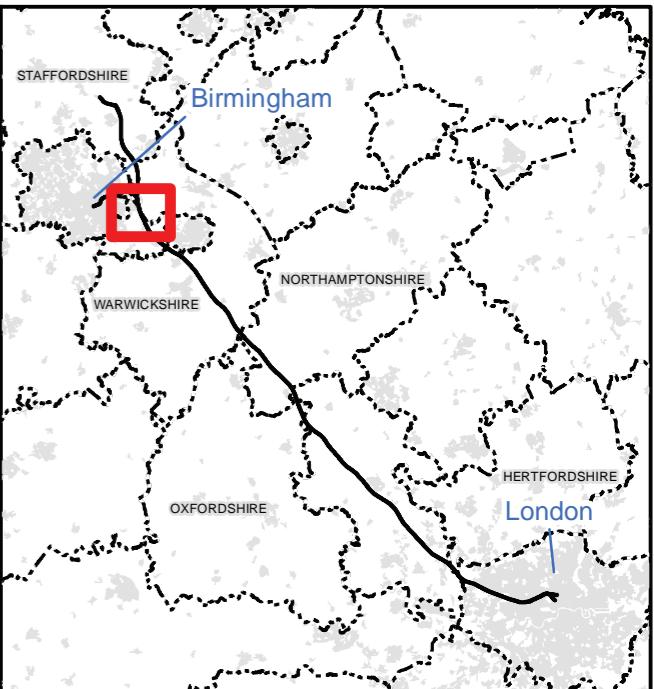
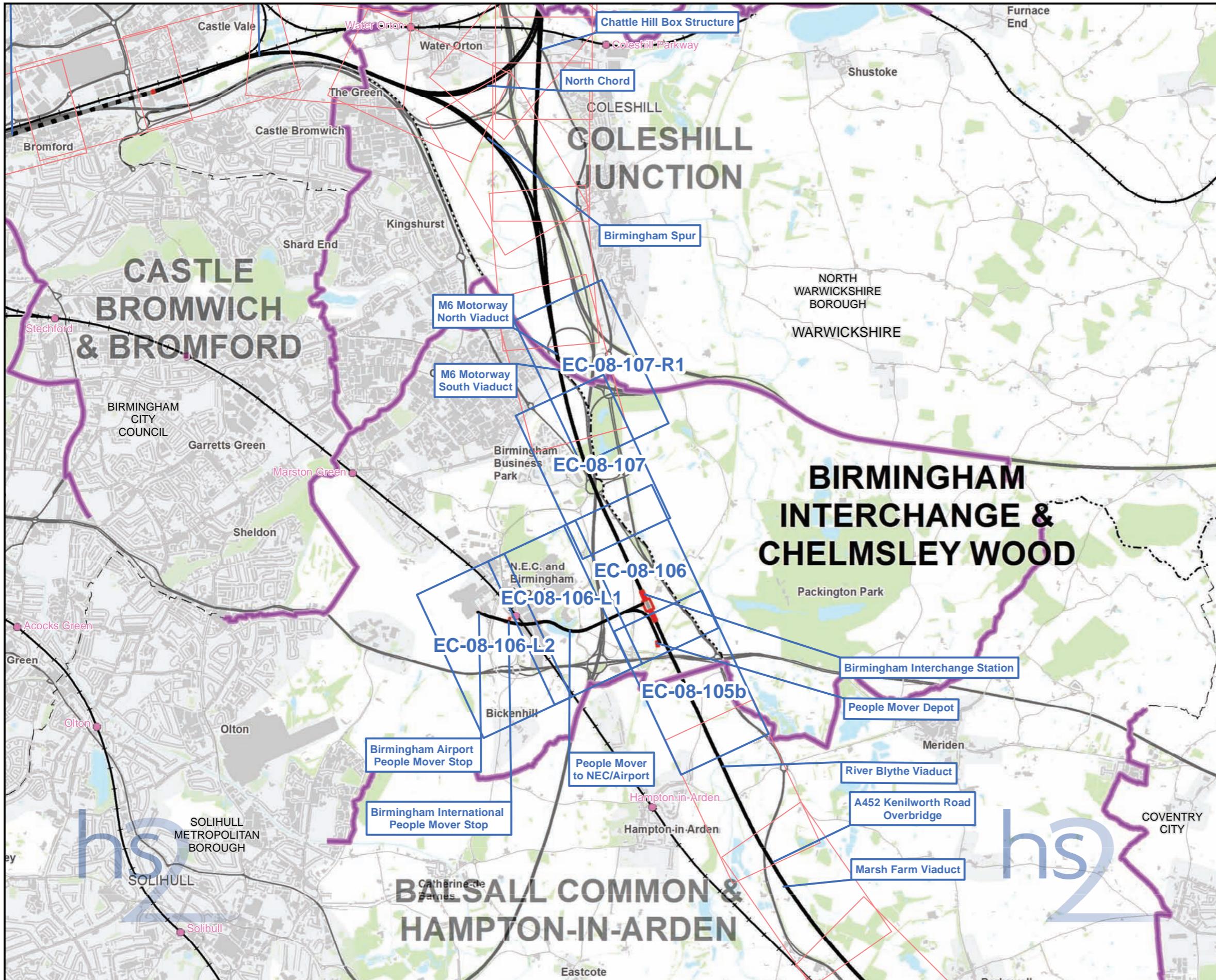


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LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

EC-08 – Breeding Birds – Protected and Notable Species



Main Map Legend	
Route in tunnel	Map sheets included in this community forum
Route on surface	Map sheets not included in this community forum
Depot, station, headhouse or portal building	
Community forum boundary	
Existing railway station	
County boundary	
District/Borough boundary	

BALSALL COMMON & HAMPTON-IN-ARDEN

hs2

Map Number	EC-08-INDEX-CFA24
Map Name	Index Map of: Breeding Birds - Protected and Notable Species
Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood	

			Community Forum Area (CFA) where species recorded and considered relevant to the assessment			
BTO species code	Common name	Protected status	CFA 1-6	CFA 7-15	CFA 16-22	CFA 23-26
BH	Black-headed Gull	BoCC amber listed, localised and scarce				✓
CA	Cormorant	Localised breeding species		✓		✓
CB	Corn bunting	BoCC red listed*, local and scarce		✓	✓	✓
CK	Cuckoo	BoCC concern red listed, local and scarce	✓	✓		✓
CN	Common tern	BoCC amber listed, local		✓		✓
FC	Firecrest	Schedule 1, BoCC amber listed, local				✓
GA	Gadwall	BoCC amber listed, scarce breeding species		✓		✓
GH	Grasshopper warbler	BoCC red listed, local		✓		✓
GW	Garden warbler	local	✓			✓
H.	Grey heron	Localised breeding species				✓
KF	Kingfisher	Annex 1, Schedule 1, BoCC amber list			✓	✓
L.	Lapwing	BoCC red listed, localised flocks.	✓	✓	✓	✓
LG	Little grebe	BOCC Amber listed				✓
LS	Lesser spotted woodpecker	BoCC red listed, now local and scarce		✓	✓	✓
MA	Mallard	BoCC amber listed				✓
MP	Meadow Pipit	BoCC amber listed, localised breeding species	✓			✓
MT	Marsh tit	BoCC red listed, localised	✓	✓	✓	✓
N.	Nightingale	BoCC amber listed, scarce and local				✓
OC	Oystercatcher	BoCC amber listed, localised and scarce (WMM)		✓	✓	✓
P.	Grey partridge	BoCC red listed, scarce		✓	✓	✓
RK	Redshank	BoCC amber listed, scarce inland				✓
RN	Raven	Locally rare		✓		✓
SF	Spotted flycatcher	BoCC red listed, scarce		✓	✓	✓
SM	Sand martin	BoCC amber listed			✓	
SV	Shoveler	BoCC amber listed, scarce breeding species		✓		
TD	Turtle dove	BoCC red listed, local and scarce				✓
TS	Tree sparrow	BoCC red listed, local and scarce		✓	✓	✓
TU	Tufted duck	BoCC amber listed				✓
WK	Woodcock	BoCC amber listed, under-recorded				✓
WT	Willow tit	BoCC red listed, localised and v scarce		✓		✓
YW	Yellow wagtail	BoCC red listed, scarce and local		✓	✓	✓

* Birds of Conservation Concern, which are in severe decline. Easton et al (2009).

Map Name EC-08 - Legend
Map Name EC-08 - Breeding Birds - Protected and Notable Species Legend



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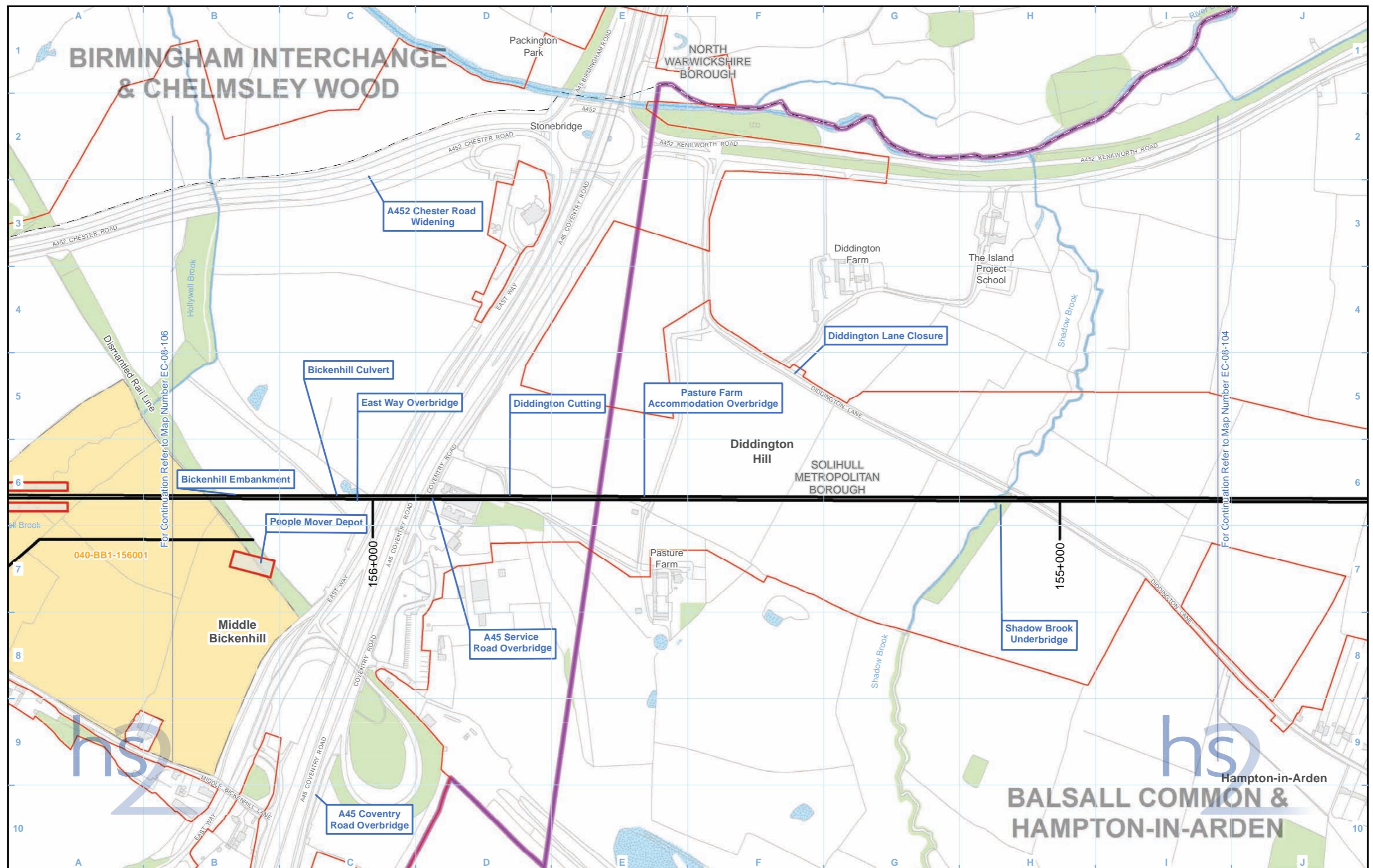
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Date: 23/10/13

BIRMINGHAM INTERCHANGE & CHELMSLEY WOOD



Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- District/Borough boundary

- Watercourse
- Water body
- Woodland (verified by survey)

Breeding birds - protection status:
 Species listed on Annex I of the Birds Directive and Schedule 1 of the Wildlife and Countryside Act
 Species listed on Schedule 1 of the Wildlife and Countryside Act

Species listed on Annex I of the Birds Directive and Schedule 1 of the Wildlife and Countryside Act
 Species listed on Birds of Conservation Concern list relevant to assessment – See Volume 5 Appendices
 Other notable species relevant to assessment - see Volume 5 Appendices

Breeding birds - survey extent
 For full legend please refer to EC-08 - Legend page

Map Number
EC-08-105b

Map Name
Breeding Birds – Protected and Notable Species

Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood



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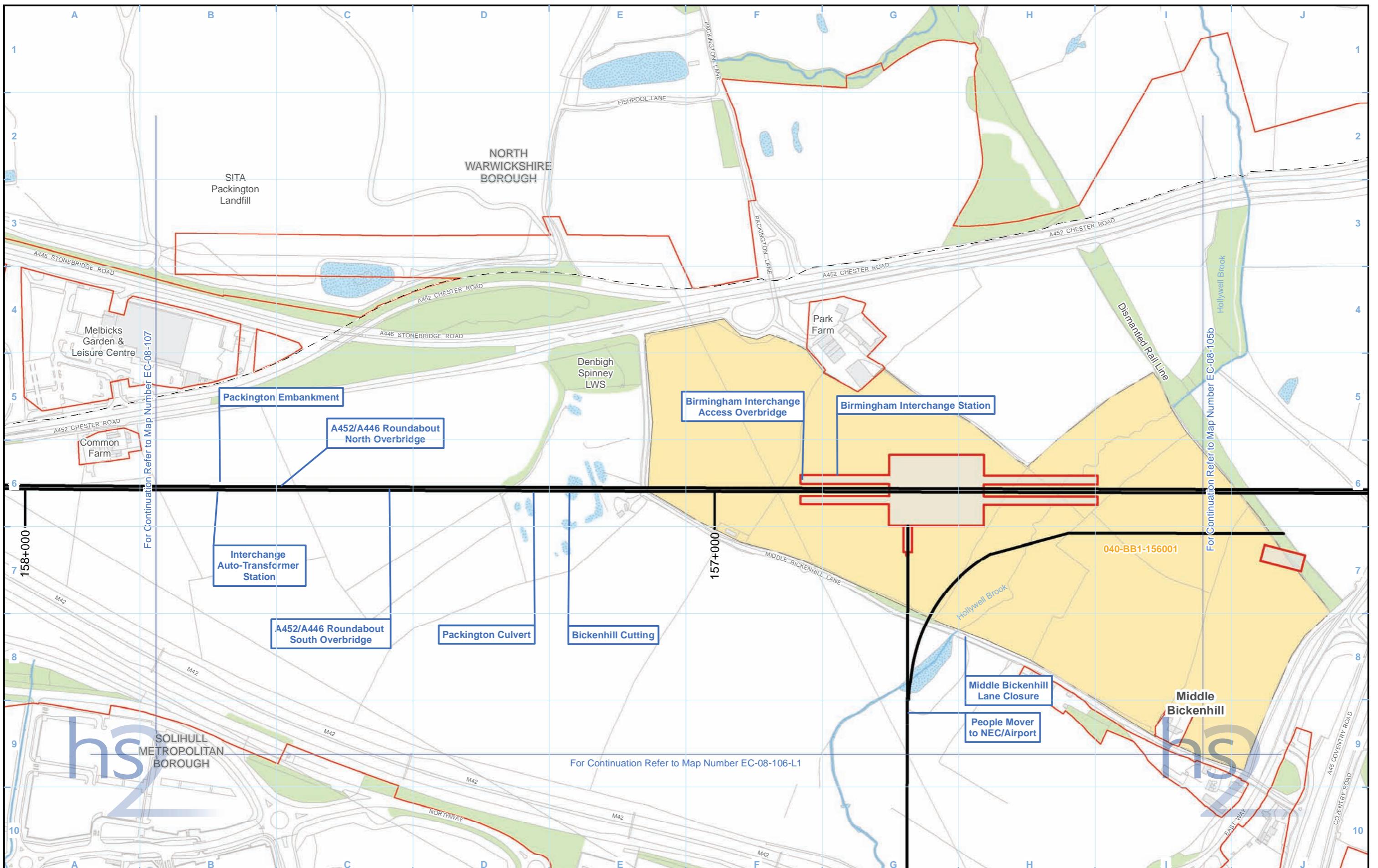


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0 50 100 150 200 Metres

Date: 28/10/13



Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- District/Borough boundary
- Watercourse
- Water body
- Woodland (verified by survey)
- Breeding birds - protection status:
 - Species listed on Annex I of the Birds Directive and Schedule 1 of the Wildlife and Countryside Act
 - Species listed on Schedule 1 of the Birds Directive
 - Species listed on Schedule 1 of the Wildlife and Countryside Act
 - Other notable species relevant to assessment - see Volume 5 Appendices

For full legend please refer to EC-08 - Legend page

Breeding birds - survey extent

Map Number
EC-08-106

Map Name
Breeding Birds – Protected and Notable Species

Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood



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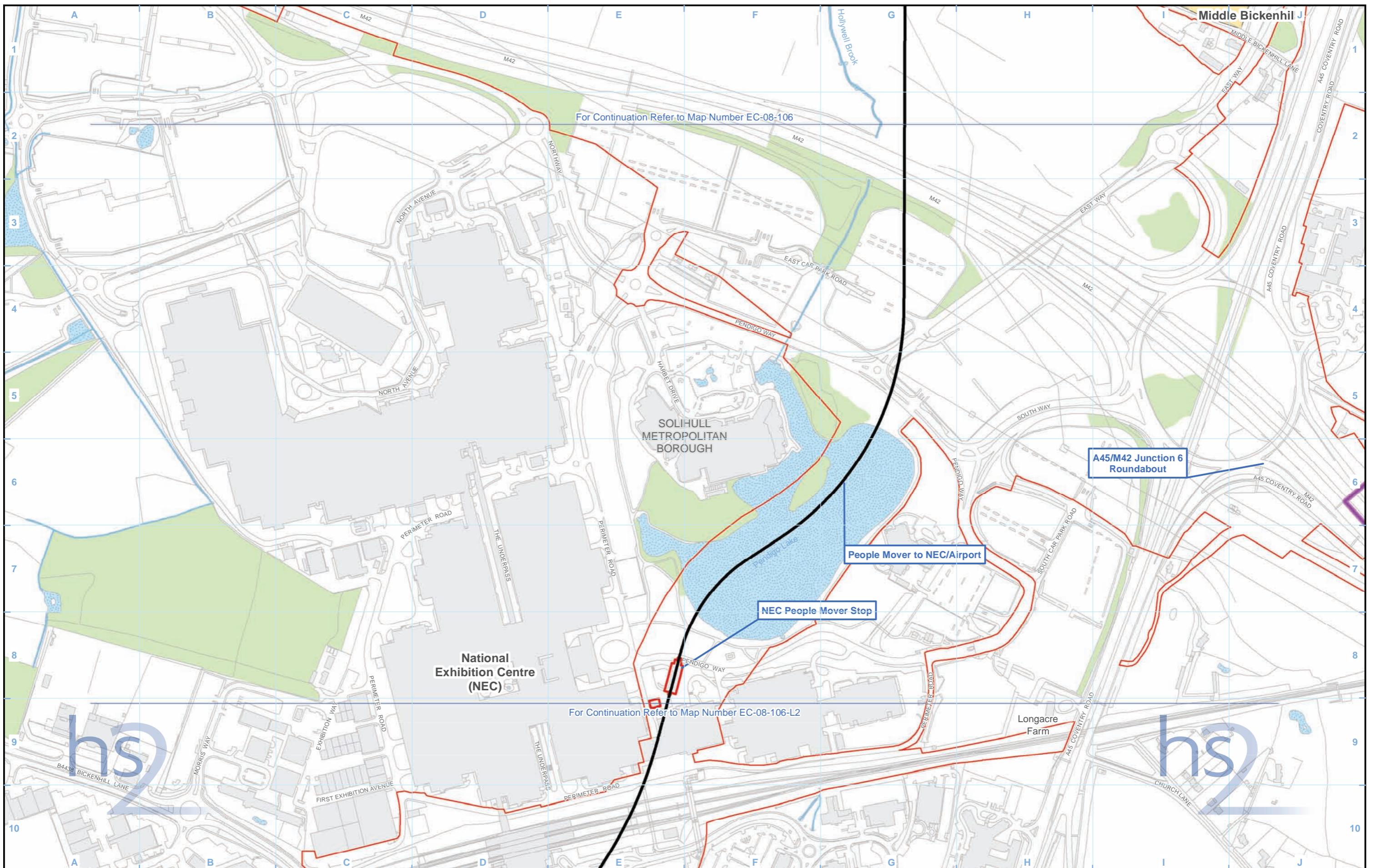
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Metres



Date: 28/10/13

Doc Number: C254-ARP-EV-MAP-040-068106-P06.00



Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
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- District/Borough boundary
- Watercourse
- Water body
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- Species listed on Birds of Conservation Concern list relevant to assessment - See Volume 5 Appendices
- Other notable species relevant to assessment - see Volume 5 Appendices

Species listed on Annex I of the Birds Directive and Schedule 1 of the Wildlife and Countryside Act

Species listed on Birds of Conservation Concern list relevant to assessment - See Volume 5 Appendices

Other notable species relevant to assessment - see Volume 5 Appendices

For full legend please refer to EC-08 - Legend page

Map Number	EC-08-106-L1
Map Name	Breeding Birds – Protected and Notable Species
Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood	
Doc Number: C254-ARP-EV-MAP-040-068206-P06.00 Date: 28/10/13	

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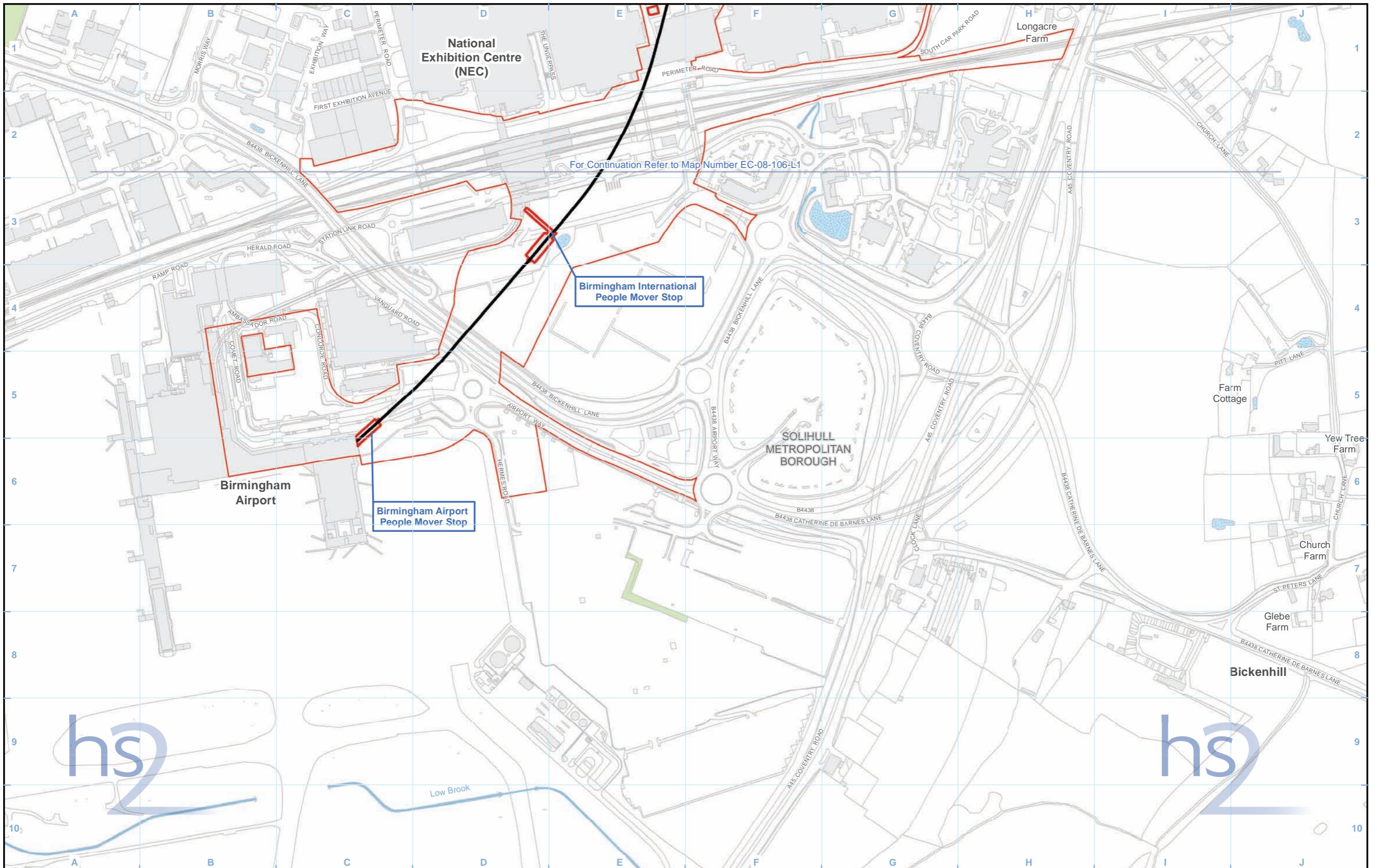


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Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- District/Borough boundary

- Watercourse
- Water body
- Woodland (verified by survey)

Breeding birds - protection status:
 Species listed on Annex I of the Birds Directive and Schedule 1 of the Wildlife and Countryside Act
 Species listed on Schedule 1 of the Birds Directive
 Species listed on Birds of Conservation Concern list relevant to assessment – See Volume 5 Appendices
 Other notable species relevant to assessment - see Volume 5 Appendices

For full legend please refer to EC-08 - Legend page

Map Number: EC-08-106-L2
Map Name: Breeding Birds – Protected and Notable Species
Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood

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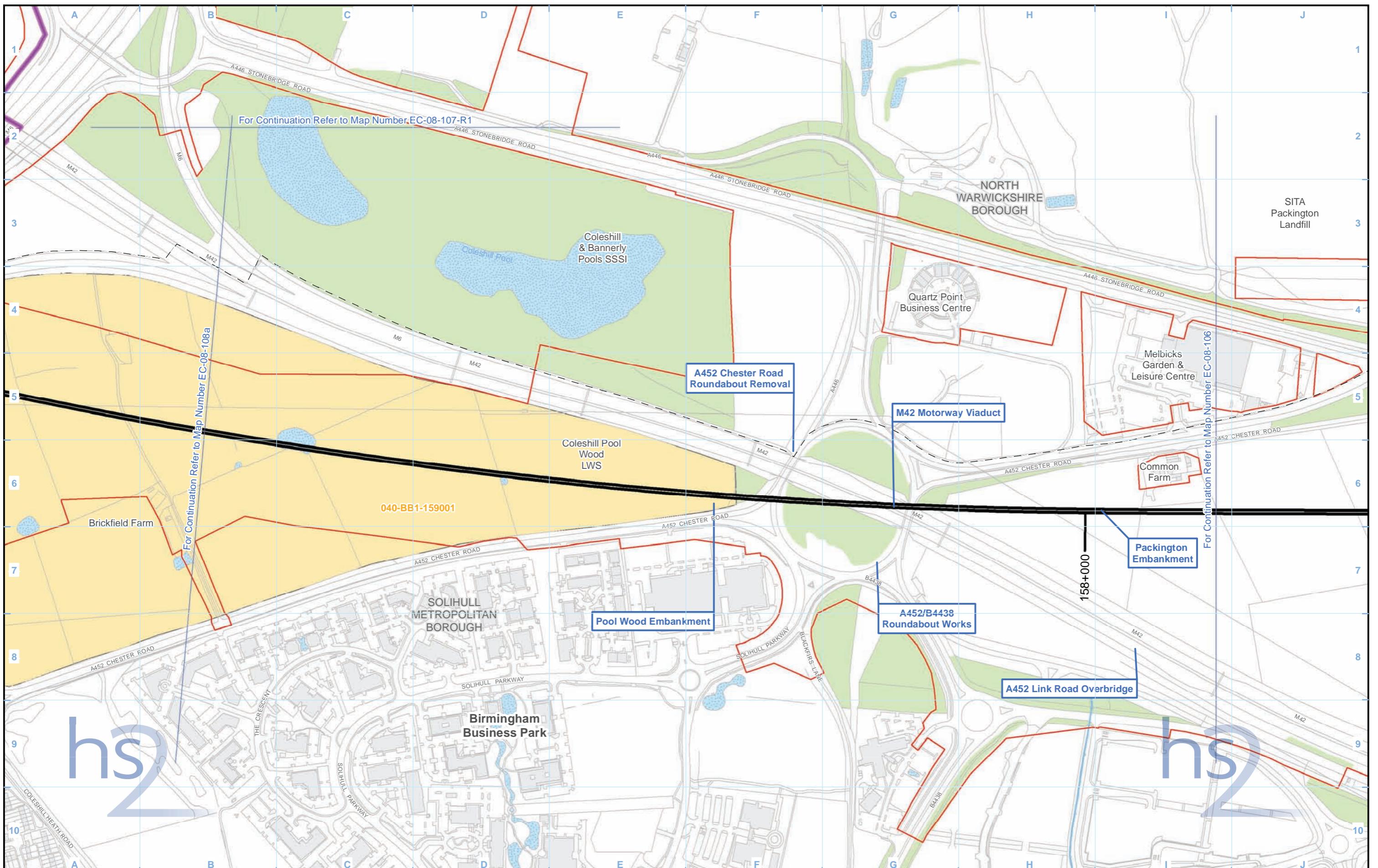


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Date: 28/10/13



Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- District/Borough boundary

- Watercourse
- Water body
- Woodland (verified by survey)

Breeding birds - protection status:
● Species listed on Annex I of the Birds Directive and Schedule 1 of the Wildlife and Countryside Act
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● Species listed on Birds of Conservation Concern list relevant to assessment – See Volume 5 Appendices
● Other notable species relevant to assessment - see Volume 5 Appendices

For full legend please refer to EC-08 - Legend page

Map Number
EC-08-107

Map Name
Breeding Birds – Protected and Notable Species

Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood



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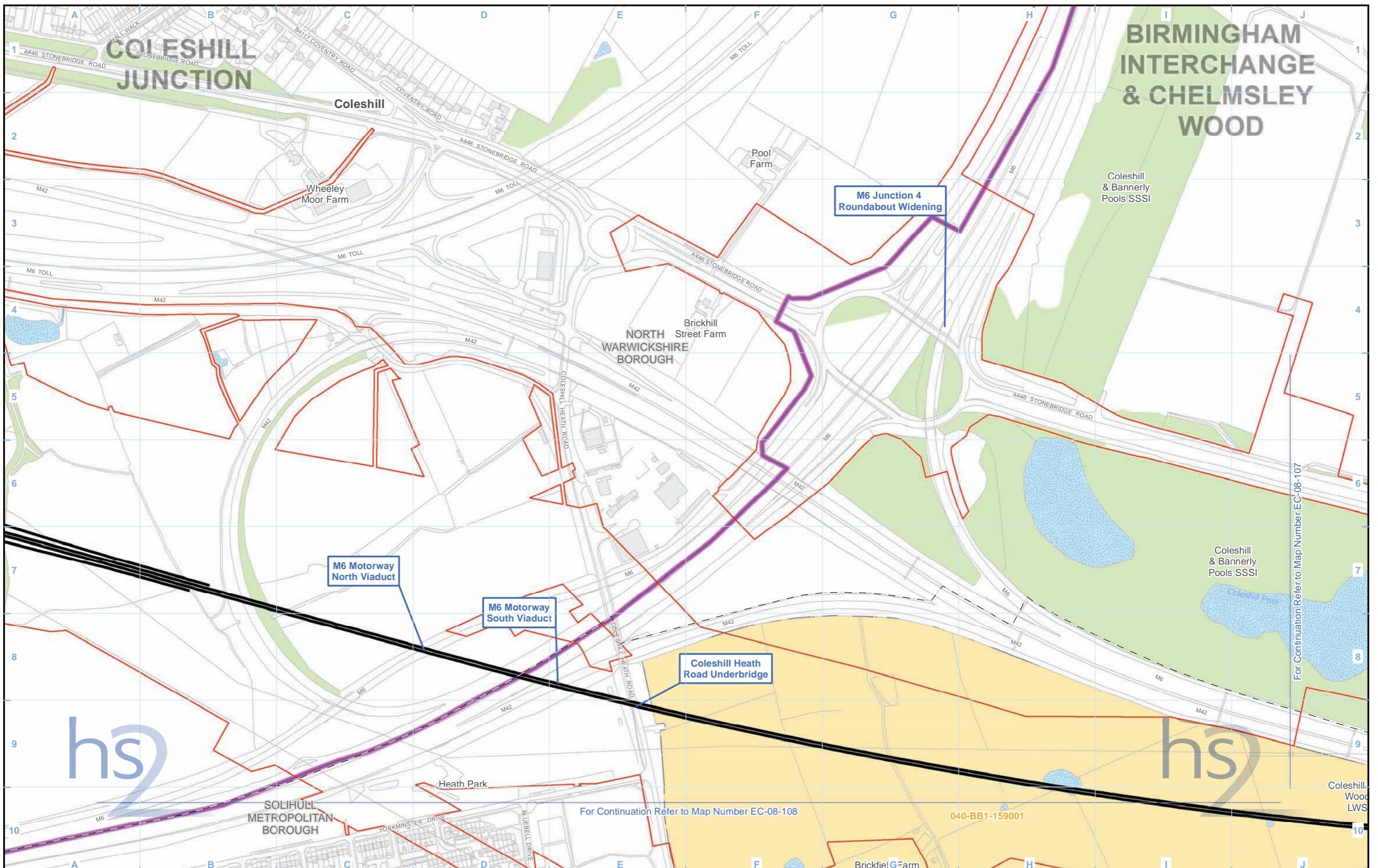
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Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- District/Borough boundary

- Watercourse
- Water body
- Land potentially required during construction
- Community forum boundary

Breeding birds - protection status:
Species listed on Annex I of the Birds Directive and Schedule 1 of the Wildlife and Countryside Act
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Other notable species relevant to assessment - see Volume 5 Appendices

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Species listed on Birds of Conservation Concern list relevant to assessment - See Volume 5 Appendices
Other notable species relevant to assessment - see Volume 5 Appendices

■ Breeding birds - survey extent
For full legend please refer to EC-08 - Legend page

Map Number EC-08-107-R1

Map Name Breeding Birds – Protected and Notable Species

Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood

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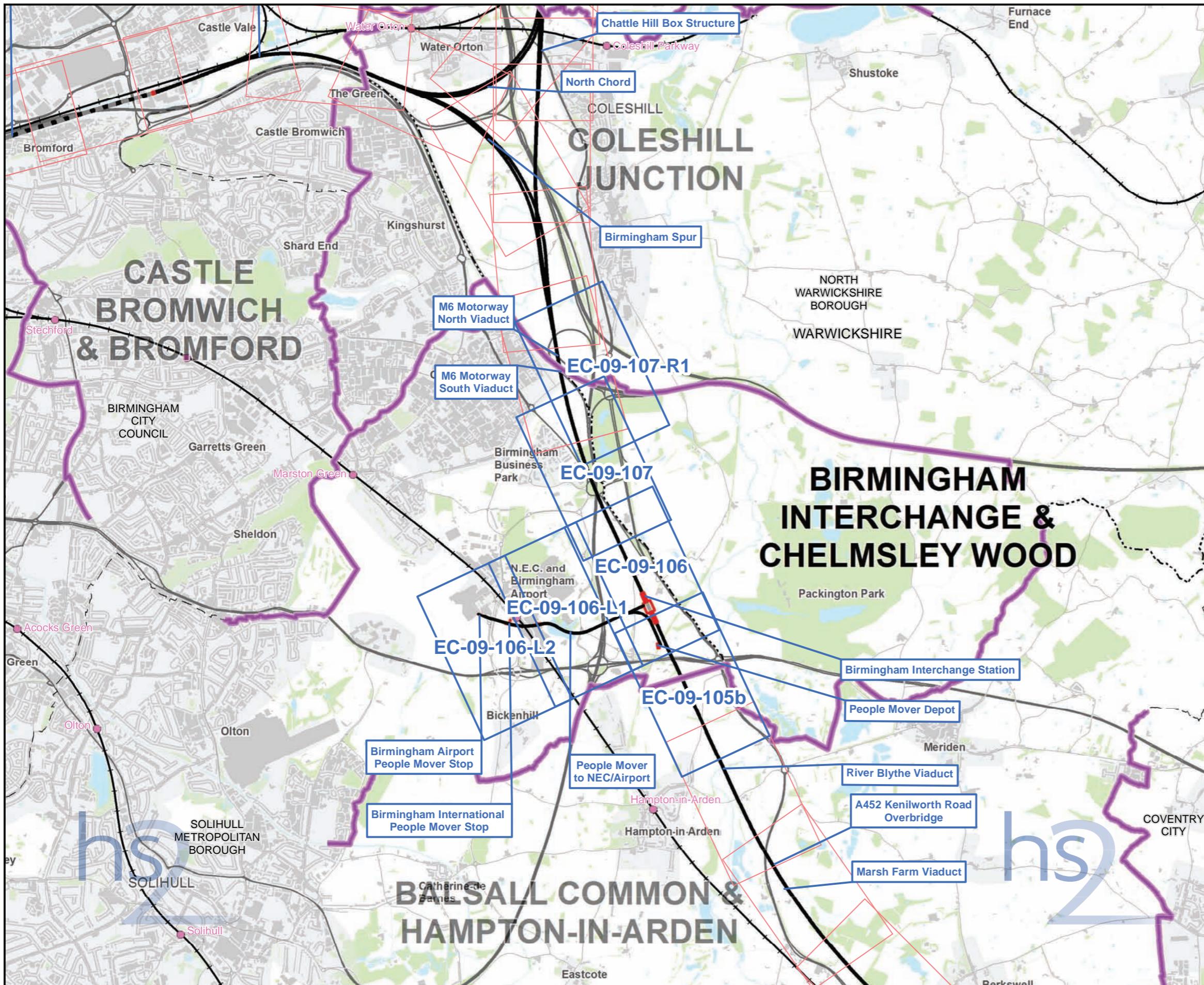


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LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

EC-09 – Wintering and Passage Birds – Protected and Notable Species



Main Map Legend	
Route in tunnel	Map sheets included in this community forum
Route on surface	Map sheets not included in this community forum
Depot, station, headhouse or portal building	
Community forum boundary	
Existing railway station	
County boundary	
District/Borough boundary	

Map Number EC-09-INDEX-CFA24

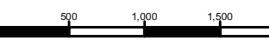
Map Name Index Map of:
Wintering and Passage Birds - Protected and
Notable Species

Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood

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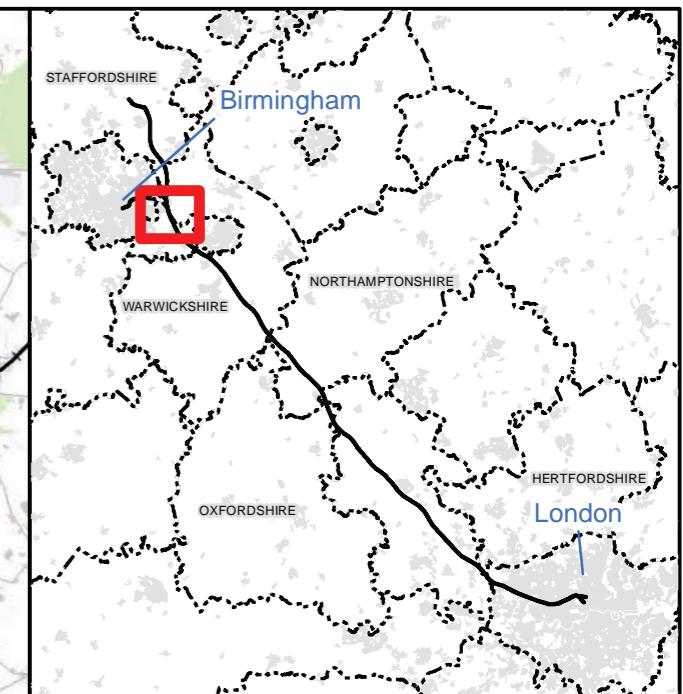


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Date: 25/10/13



Map Series Information:

This map series shows records of protected/notable wintering birds that are considered most relevant in considering the impacts of the Proposed Scheme.

Note: Not all data layers in the legend are represented on every map.

			Community Forum Area (CFA) where species recorded and considered relevant to the assessment			
BTO species code	Common name	Protected status	CFA 1-6	CFA 7-15	CFA 16-22	CFA 23-26
BC	Blackcap	Scarce in winter				✓
BL	Brambling	Schedule 1		✓	✓	✓
BO	Barn owl	Schedule 1, BoCC amber listed*, localised and scarce		✓	✓	✓
CB	Corn bunting	BoCC red listed**, local and scarce		✓	✓	✓
CC	Chiffchaff	Scarce in winter				✓
CW	Cetti's warbler	Schedule 1, scarce and local		✓		✓
ET	Little egret	Annex 1, BoCC amber listed, scarce	✓	✓	✓	✓
GA	Gadwall	BoCC amber List		✓	✓	✓
GE	Green sandpiper	Schedule 1, scarce and local in winter		✓	✓	✓
GN	Goldeneye	BOCC amber list		✓		
GP	Golden plover	Annex 1, BoCC amber listed, localised flocks		✓	✓	✓
JS	Jack snipe	BoCC amber list			✓	
KF	Kingfisher	Annex 1, Schedule 1, BoCC amber list	✓	✓	✓	
KT	Red Kite	Annex 1, Schedule 1, BoCC amber listed	✓	✓		
L.	Lapwing	BoCC red listed, localised flocks		✓	✓	✓
LE	Long-eared owl	Local and scarce				✓
LG	Little grebe	BoCC amber listed			✓	✓
LS	Lesser spotted woodpecker	BoCC red listed, now local and scarce		✓	✓	✓
MA	Mallard	BoCC amber listed				✓
ML	Merlin	Annex 1, Schedule 1, BoCC amber listed		✓		
MT	Marsh tit	BoCC red listed, localised		✓	✓	✓
P.	Grey partridge	BoCC red listed, scarce		✓	✓	✓
PE	Peregrine	Annex 1, Schedule 1		✓	✓	
PO	Pochard	BoCC amber listed		✓	✓	✓
RN	Raven	Locally rare		✓		✓
S.	Skylark	BoCC red listed, localised flocks				✓
SN	Snipe	BoCC amber listed, localised flocks			✓	✓
SU	Shelduck	BOCC amber listed			✓	✓
SV	Shoveler	BoCC amber listed, scarce breeding species		✓		✓
T.	Teal	BoCC amber listed		✓	✓	✓
TS	Tree sparrow	BoCC red listed, local and scarce		✓	✓	✓
TU	Tufted duck	BoCC amber listed			✓	✓
WK	Woodcock	BoCC amber listed, under-recorded		✓	✓	✓
WN	Wigeon	BoCC amber listed		✓		✓
WT	Willow tit	BoCC red listed, localised and very scarce		✓	✓	✓

* Birds of Conservation Concern, which are declining moderately. Eaton, M.A., Brown, A.F., Noble, D.G., Musgrove, A.J., Hearn, R., Aebscher, N.J., Gibbons, D.W., Evans, A. and Gregory, R.D. (2009) Birds of Conservation Concern 3: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man. British Birds 102, pp296-341.

** Birds of Conservation Concern, which are severely decline. Easton et al (2009).

Map Name
EC-09 - Legend

Map Name
EC-09 - Wintering and Passage
Birds - Protected and Notable
Species Legend



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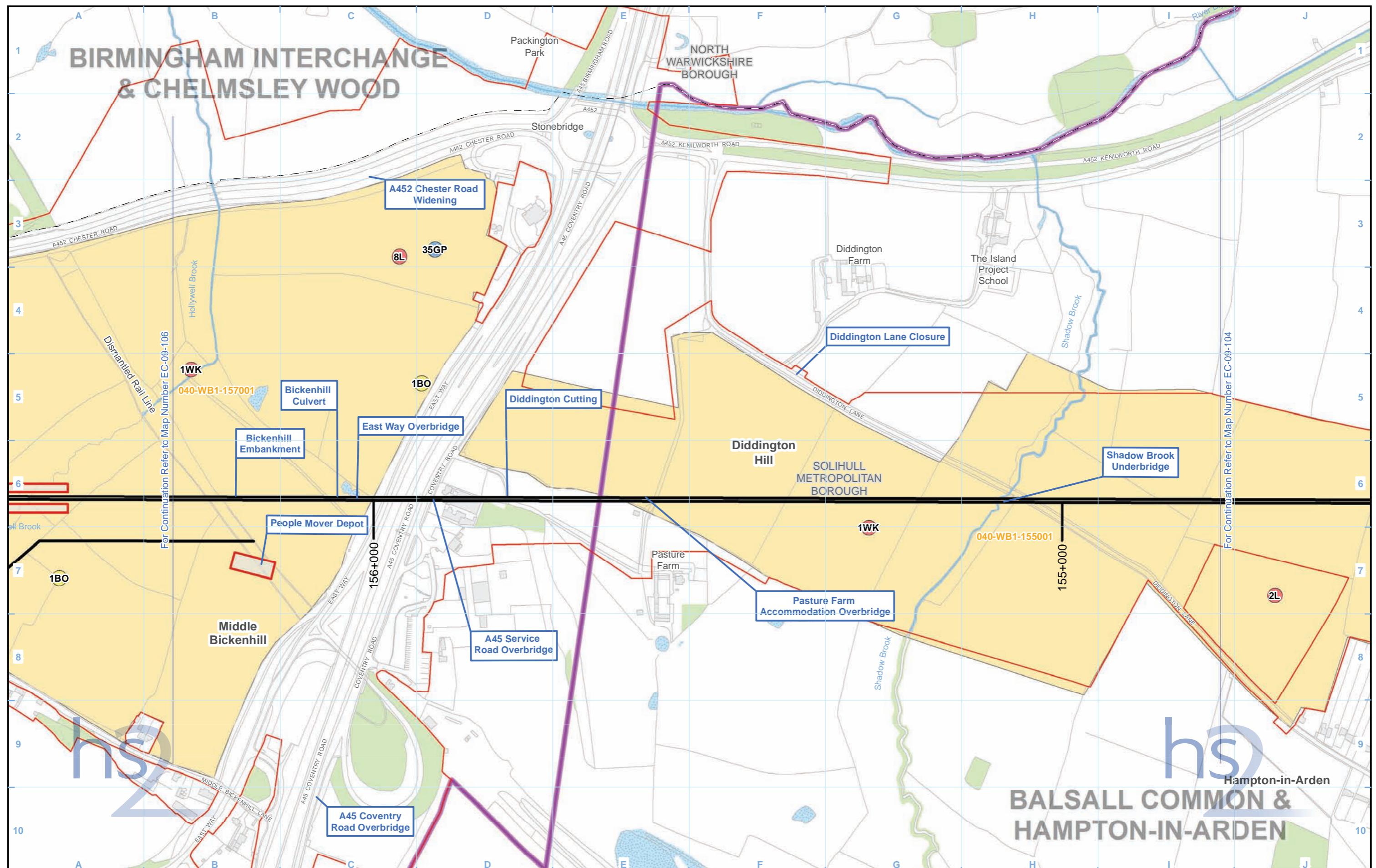
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BIRMINGHAM INTERCHANGE & CHELMSLEY WOOD



Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- District/Borough boundary

- Watercourse
- Water body
- Woodland (verified by survey)

Wintering and passage birds - protection status:
 Species listed on Annex I of the Birds Directive and Schedule 1 of the Wildlife and Countryside Act
 Species listed on Annex I of the Birds Directive
 Species listed on Schedule 1 of the Wildlife and Countryside Act

Species listed on Annex I of the Birds Directive and Schedule 1 of the Wildlife and Countryside Act
 Species listed on Birds of Conservation Concern list relevant to assessment – See Volume 5 Appendices
 Other notable species relevant to assessment - see Volume 5 Appendices

Wintering and passage birds - survey extent

For full legend please refer to EC-09 - Legend page

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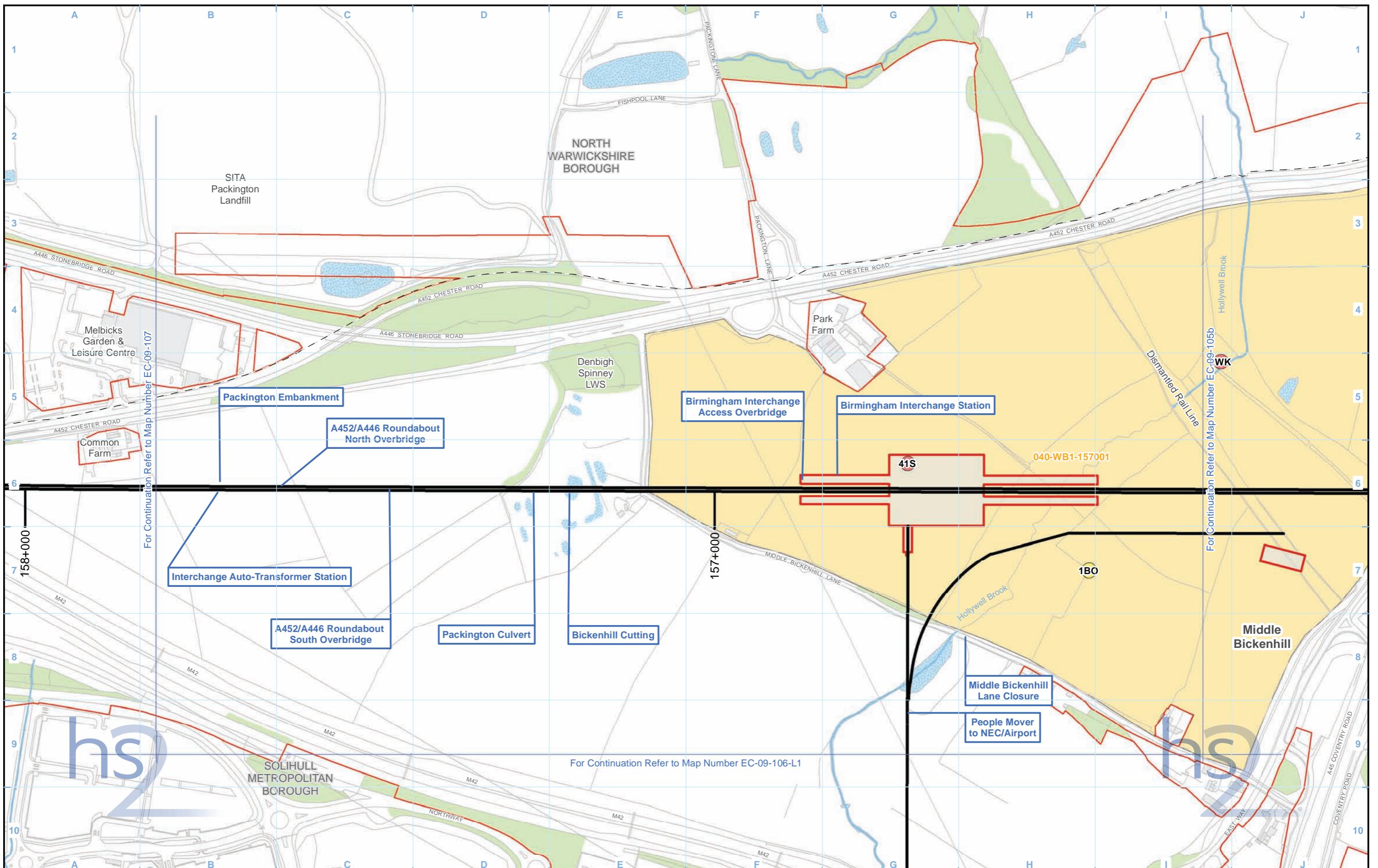


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Date: 28/10/13



Legend

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- Route on surface
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Wintering and passage birds - protection status:

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- Species listed on Birds of Conservation Concern list relevant to assessment – See Volume 5 Appendices
- Other notable species relevant to assessment - see Volume 5 Appendices

Wintering and passage birds - survey extent

For full legend please refer to EC-09 - Legend page

Map Number

EC-09-106

Map Name

Wintering and Passage Birds – Protected and Notable Species

Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood



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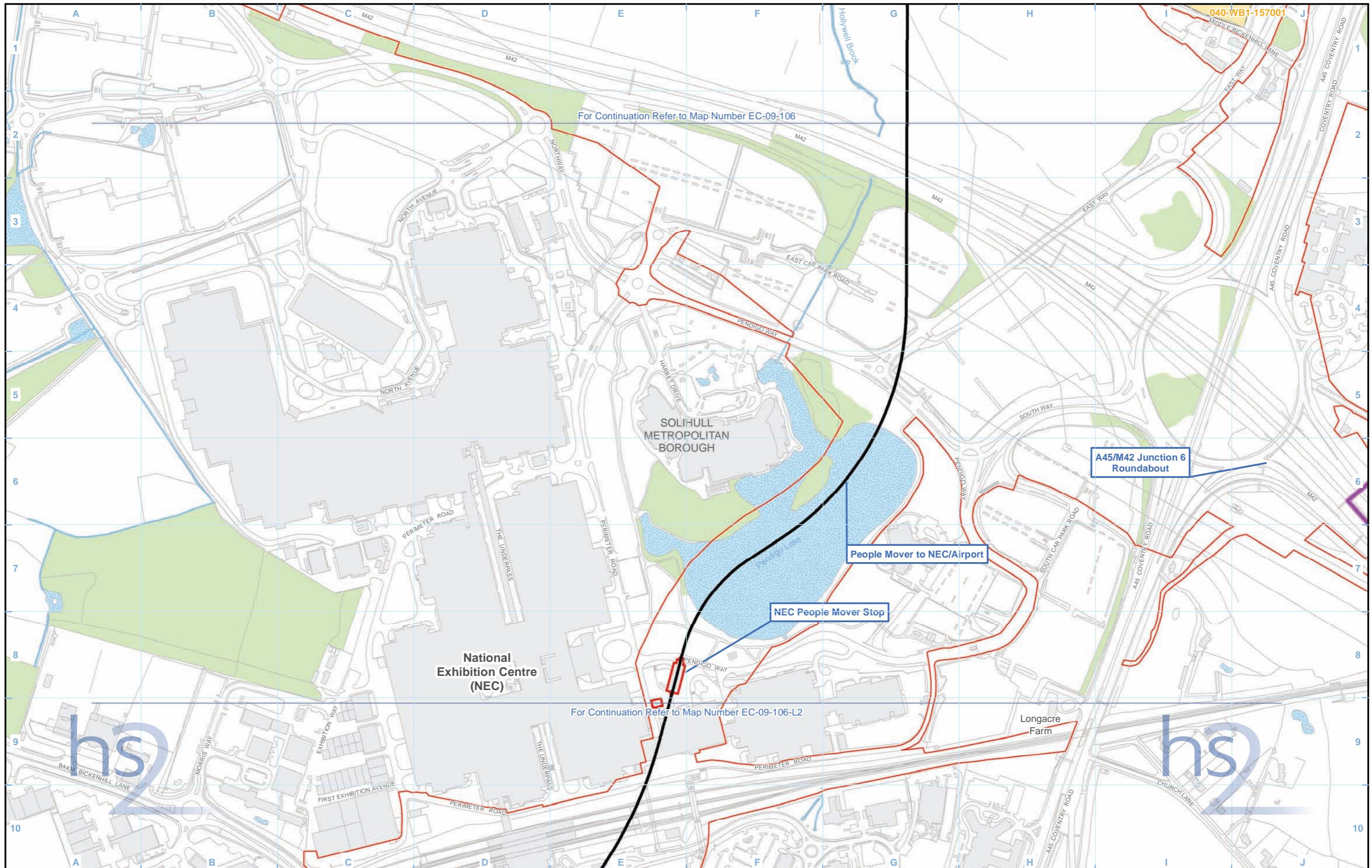
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Legend

- Route in tunnel
 - Route on surface
 - Depot, station, headhouse or portal building
 - Land potentially required during construction
 - Community forum boundary
 - District/Borough boundary
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 - Water body
 - Woodland (verified by survey)

Wintering and passage
birds - protection stat
 Species listed

- of the Birds Directive
- Species listed on Schedule 1 of the Wildlife and Countryside Act

 Species listed on Annex I of the Birds Directive and Schedule 1 of the Wildlife and Countryside Act

Species listed on Birds of Conservation Concern list relevant to assessment

- See Volume 5 Appendices
- Other notable species relevant to

assessment - see Volume 5 App

Wintering and passage birds - survey ext

For full legend please refer to EC-09 - Legend p

Map N

EC-09-106-

M-N

Map Name Wintering and Passage Birds - Protected and Notable Species

Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood

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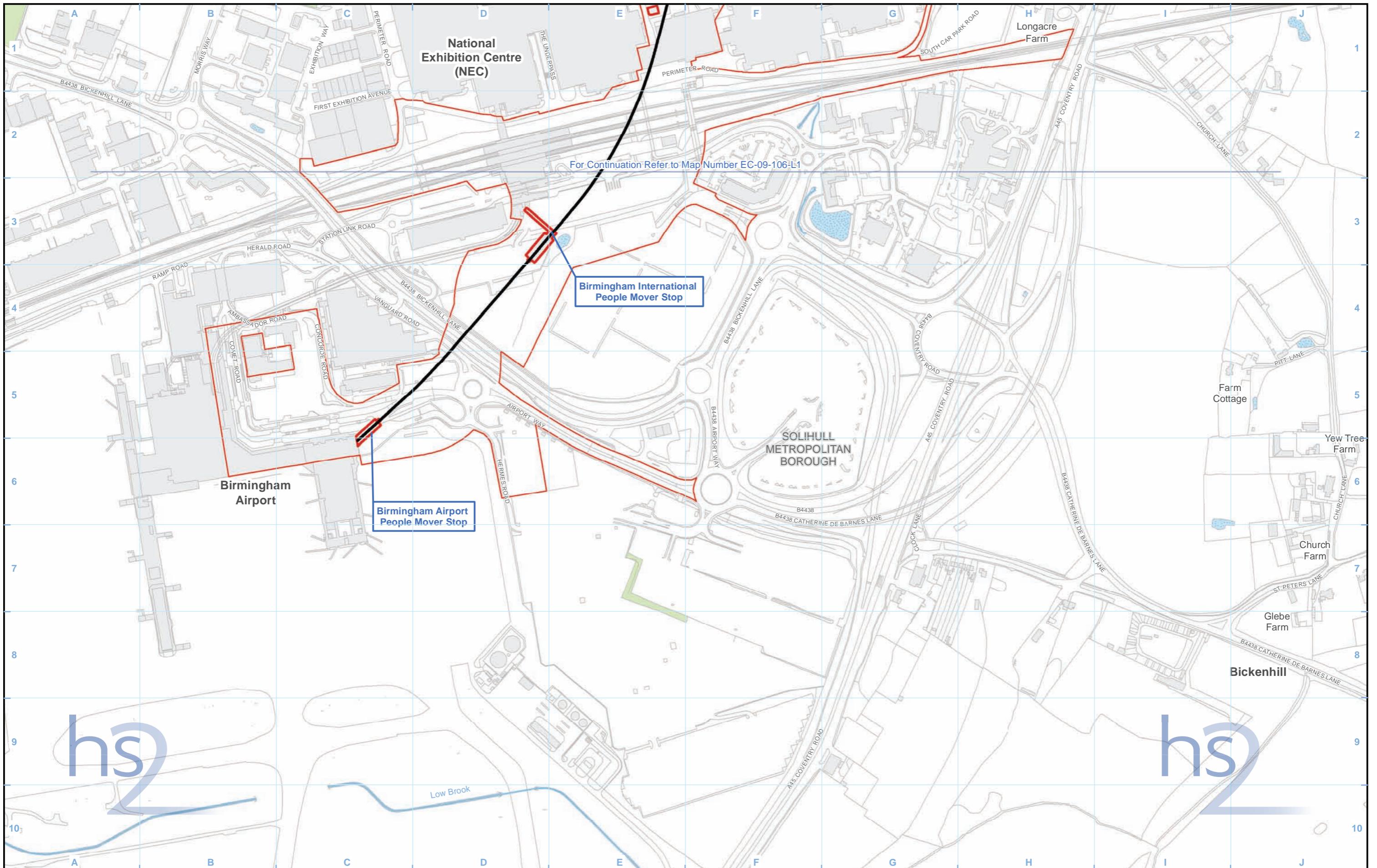
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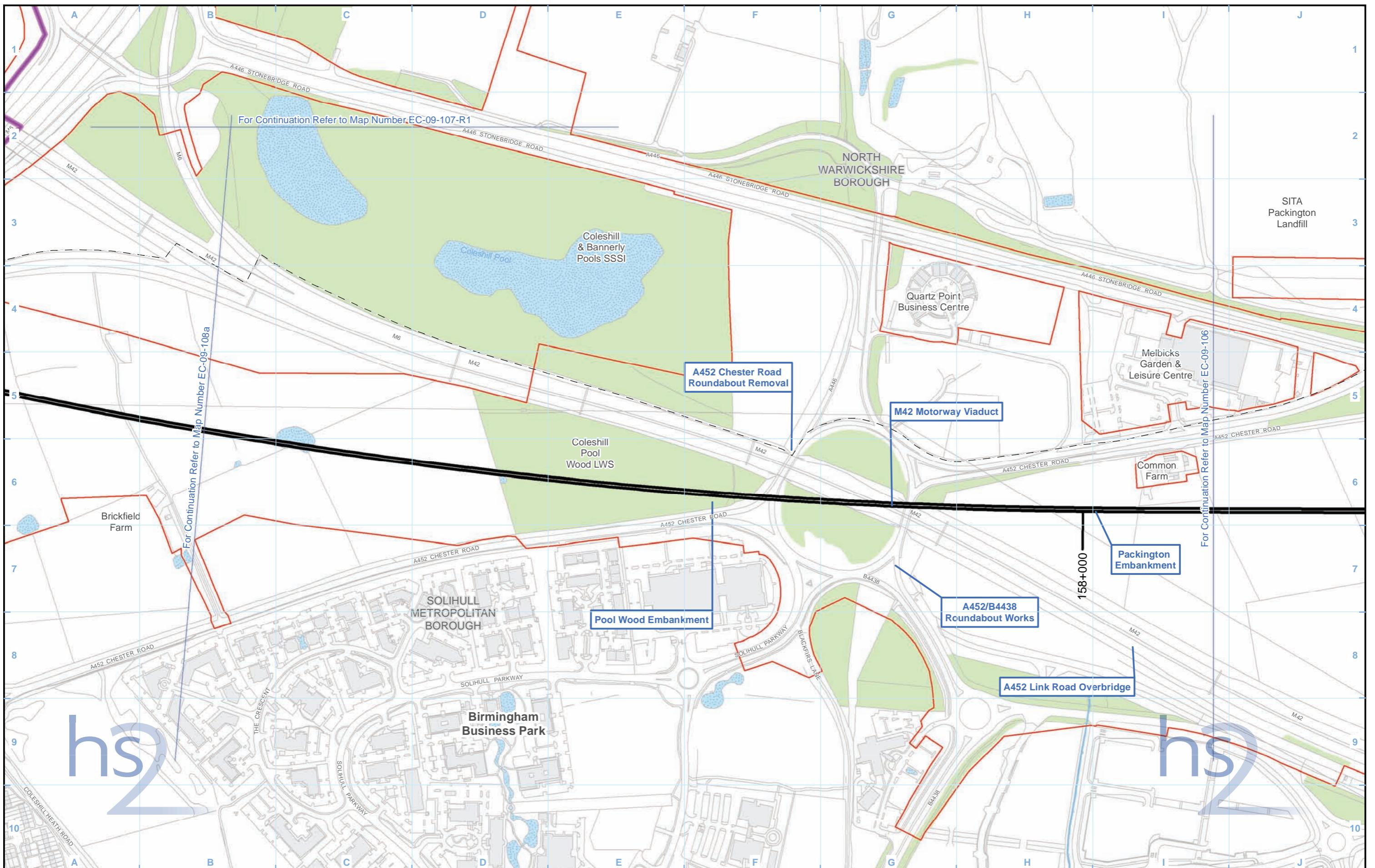
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A horizontal number line starting at 50 and ending at 200. There are tick marks at 50, 100, 150, and 200.

Metres

P06.00 Date: 28/10/13





Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
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Wintering and passage birds - protection status:

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For full legend please refer to EC-09 - Legend page

■ Wintering and passage birds - survey extent

Map Number EC-09-107

Map Name Wintering and Passage Birds – Protected and Notable Species

Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood



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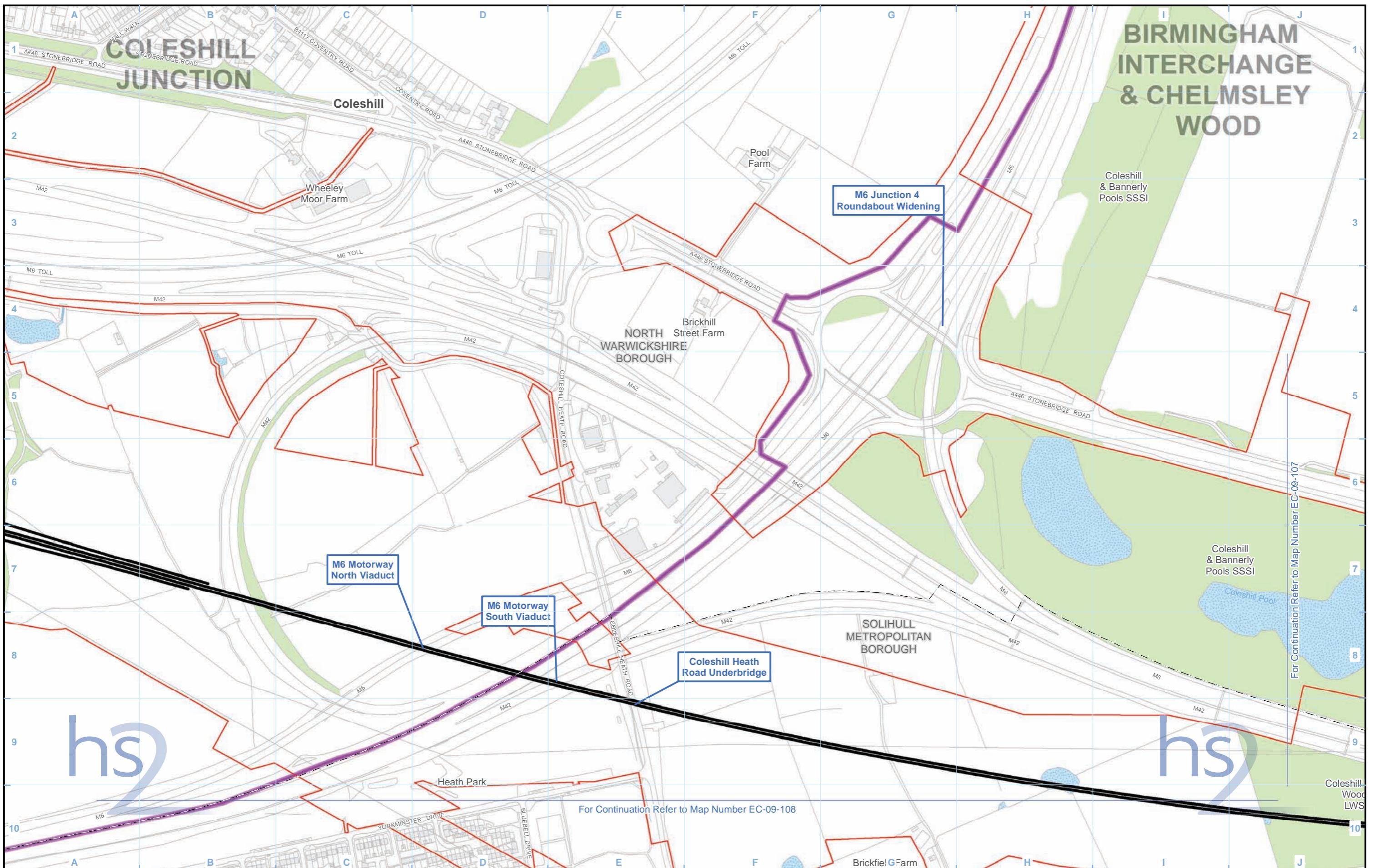


Scale at A3: 1:5,000

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Metres

Date: 28/10/13

Doc Number: C254-ARP-EV-MAP-040-069107-P06.00



Legend

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Wintering and passage birds - protection status:

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Species listed on Birds of Conservation Concern list relevant to assessment – See Volume 5 Appendices

Other notable species relevant to assessment - see Volume 5 Appendices

Map Number EC-09-107-R1

Map Name Wintering and passage birds - survey extent

For full legend please refer to EC-09 - Legend page

Map Name Wintering and Passage Birds – Protected and Notable Species

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0
Metres

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Date: 29/10/13

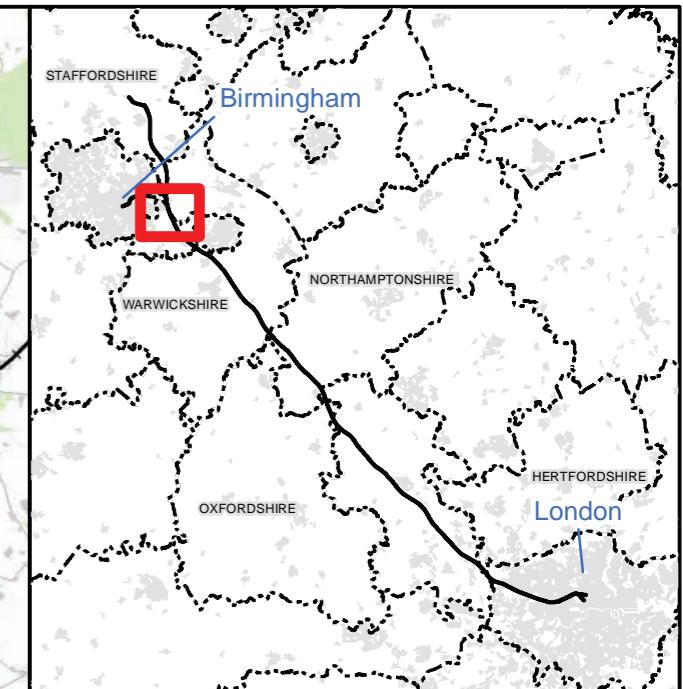
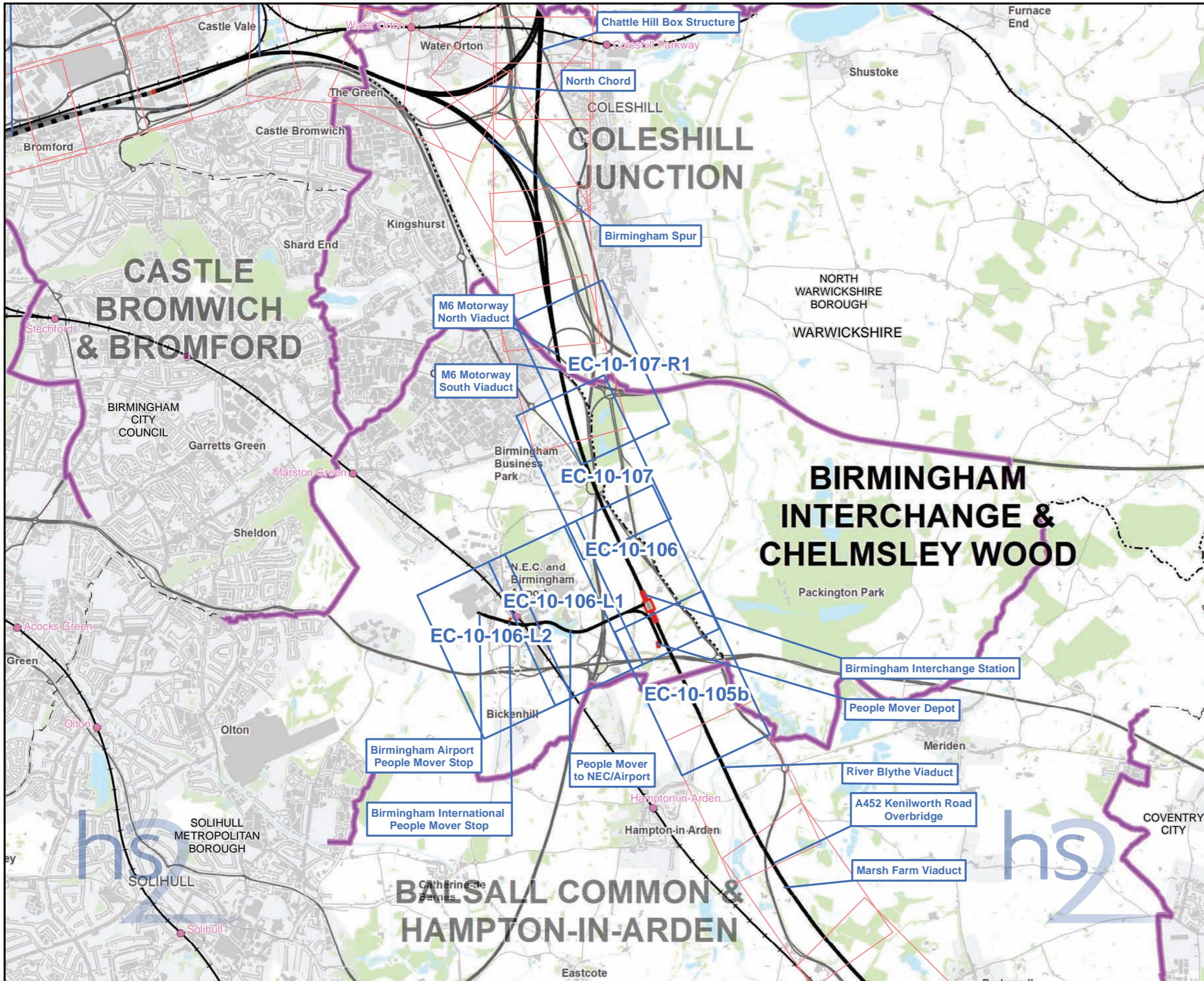


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LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

EC-10 – Phase 2 Habitat Survey

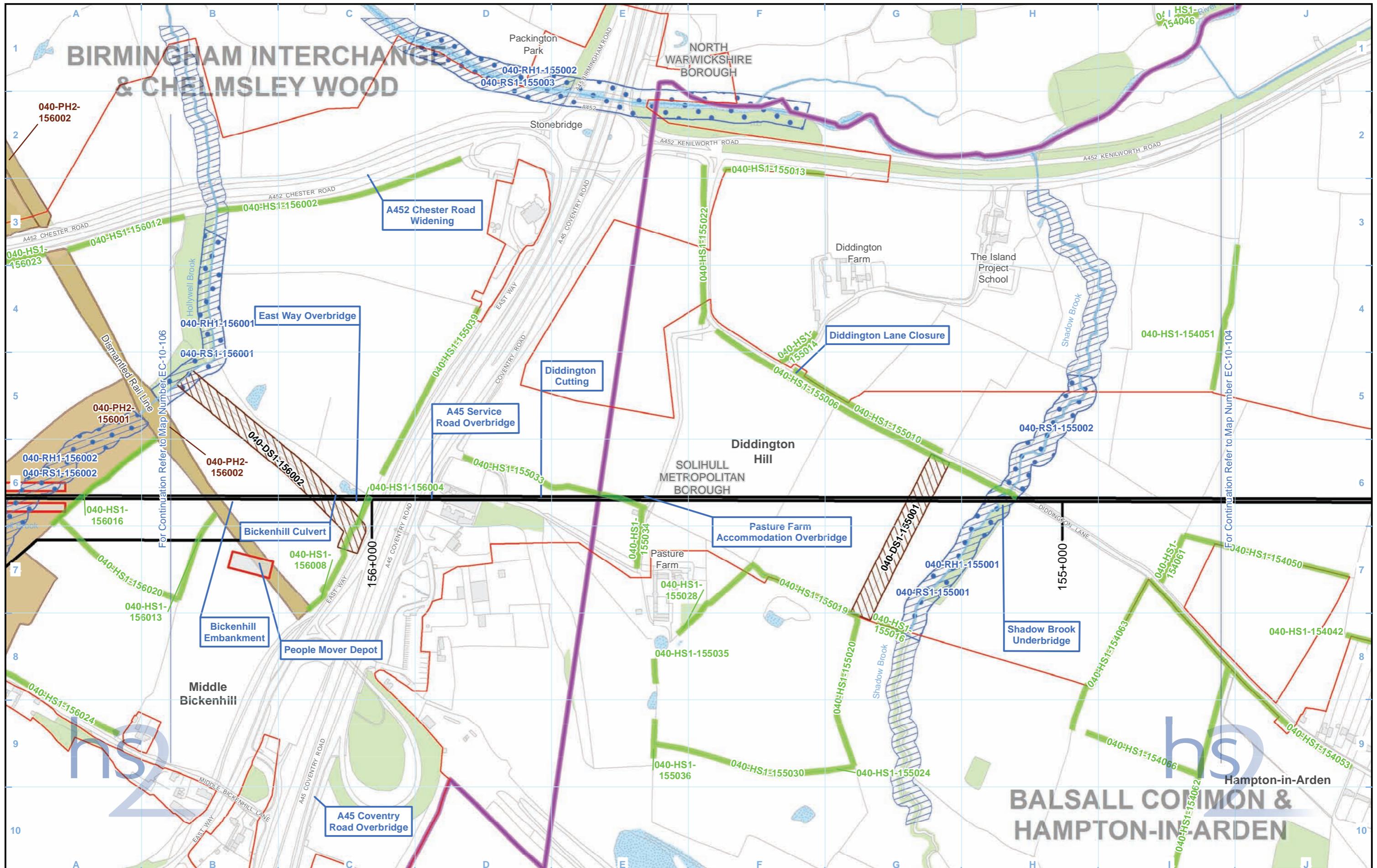


Main Map Legend	
Route in tunnel	Map sheets included in this community forum
Route on surface	Map sheets not included in this community forum
Depot, station, headhouse or portal building	
Community forum boundary	
Existing railway station	
County boundary	
District/Borough boundary	

Map Number	EC-10-INDEX-CFA24
Map Name	Index Map of: Phase 2 Habitat Survey
Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood	

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Doc Number: C254-ARP-EV-MAP-040-571002-P06.00	Date: 25/10/13

BIRMINGHAM INTERCHANGE & CHELMSLEY WOOD



Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- District/Borough boundary

Watercourse
 Water body
 Land potentially required during construction
 National Vegetation Classification survey
 Ditch vegetation survey
 Woodland (verified by survey)
 'Important' hedgerow confirmed by field survey
 Possible 'Important' hedgerow - no access available for survey
 River corridor survey extent
 River habitat survey extent

Map Number EC-10-105a

Map Name Phase 2 Habitat Survey

Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood



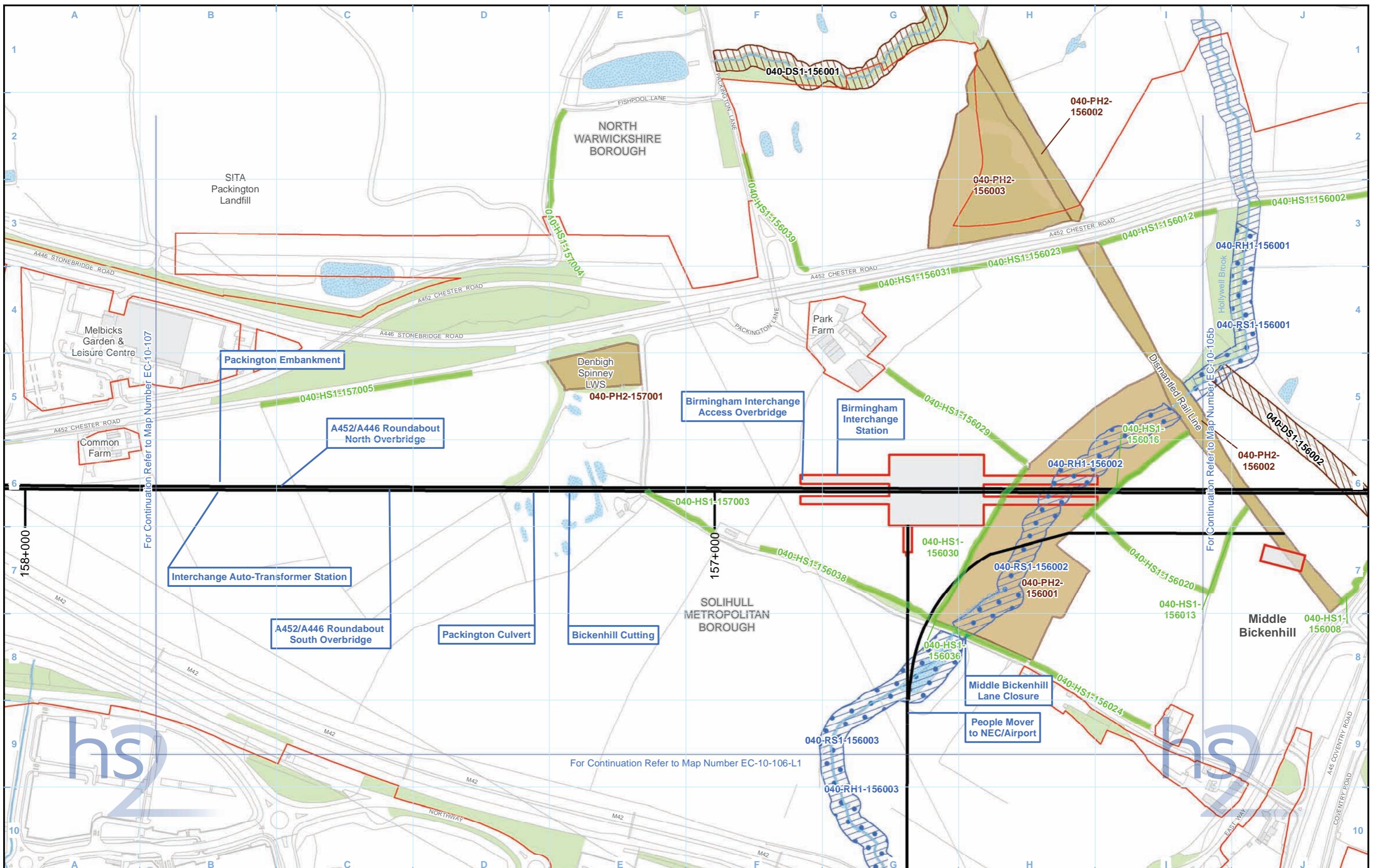
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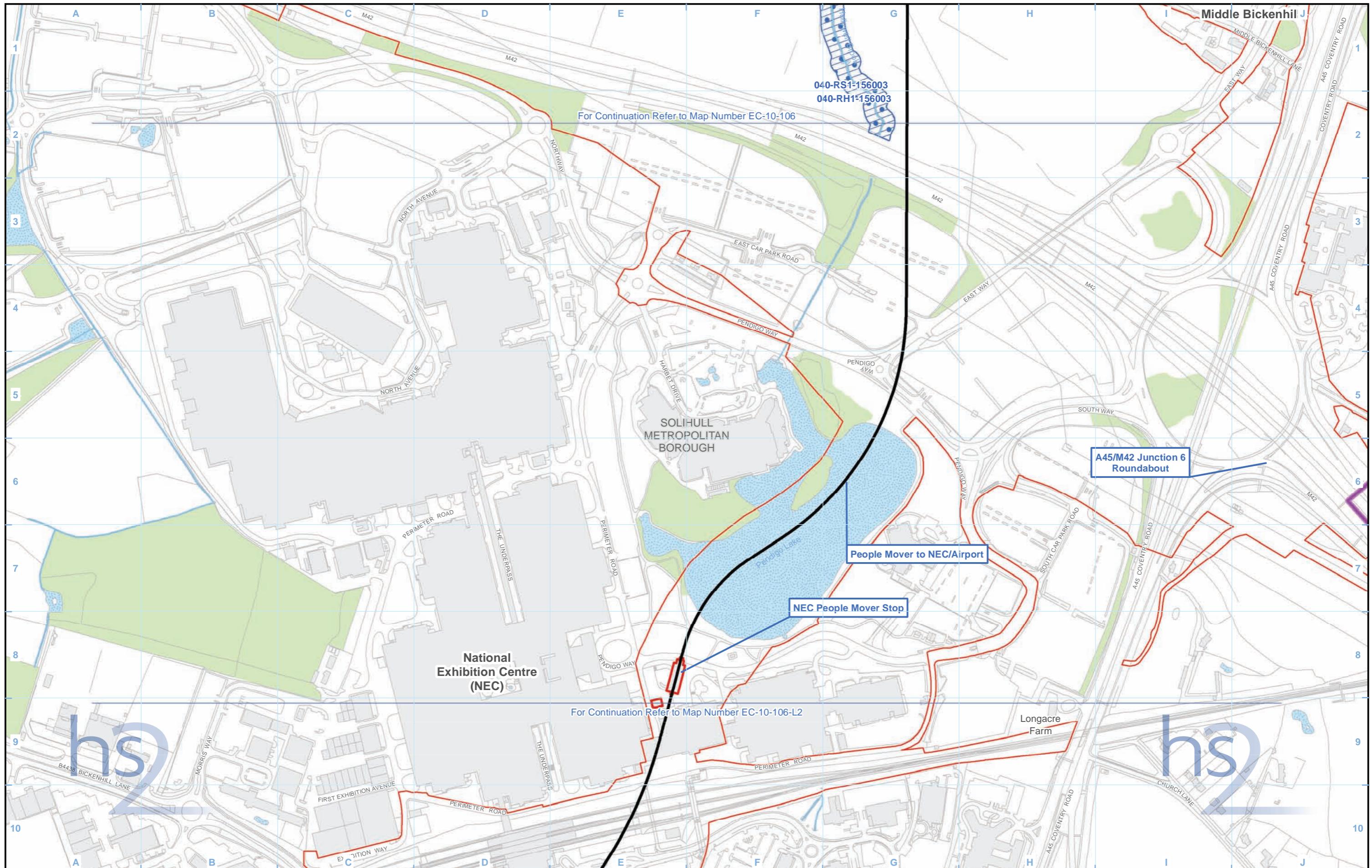
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0 50 100 150 200 Metres

Date: 28/10/13

Doc Number: C254-ARP-EV-MAP-040-071105-P06.00





Legend

- Route in tunnel
 - Route on surface
 - Watercourse
 - Depot, station, headhouse or portal building
 - Land potentially required during construction
 - Community forum boundary
 - District/Borough boundary
 - Water body
 - Woodland (verified by survey)
 - National Vegetation Classification
 - Ditch vegetation survey
 - 'Important' hedgerow confirmed by field survey
 - Possible 'Important' hedgerow - no access available for survey

1 / 10

 River corridor survey extent

River habitat survey extent

<http://www.nature.com/scientificreports/> | 10 of 10

Map N

EC-10-106-L

Phase 2 Habitat Survey

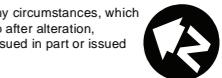
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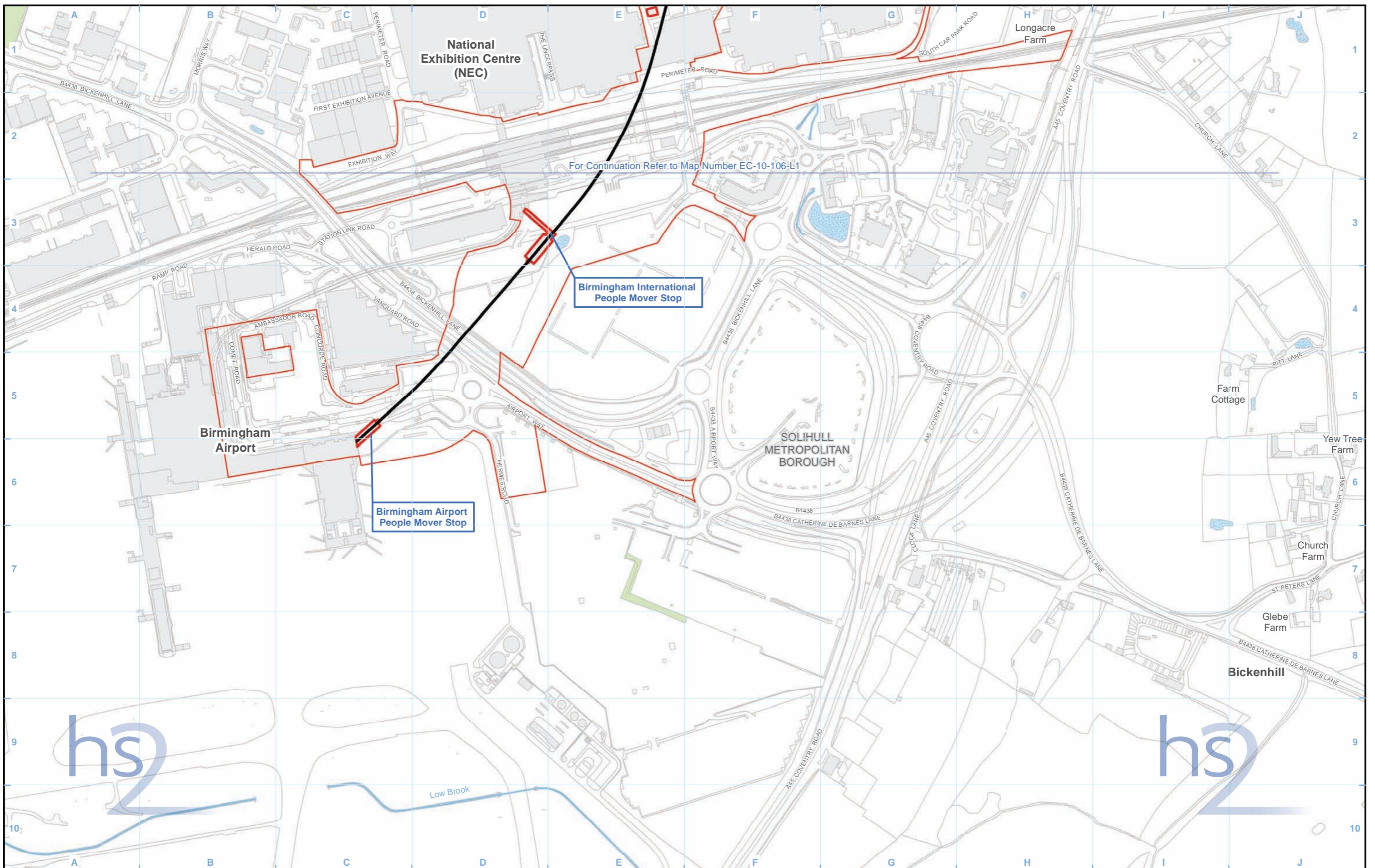
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Metres

Doc Number: C254 ABB EV MAR 040 071206 R06 00

Date: 28/10/13



Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- District/Borough boundary

- Watercourse
- Water body
- National Vegetation Classification survey
- Ditch vegetation survey
- Woodland (verified by survey)
- 'Important' hedgerow confirmed by field survey
- Possible 'Important' hedgerow - no access available for survey

Map Number EC-10-106-L2
Map Name Phase 2 Habitat Survey
Community Forum Area CFA24:
 Birmingham Interchange & Chelmsley Wood

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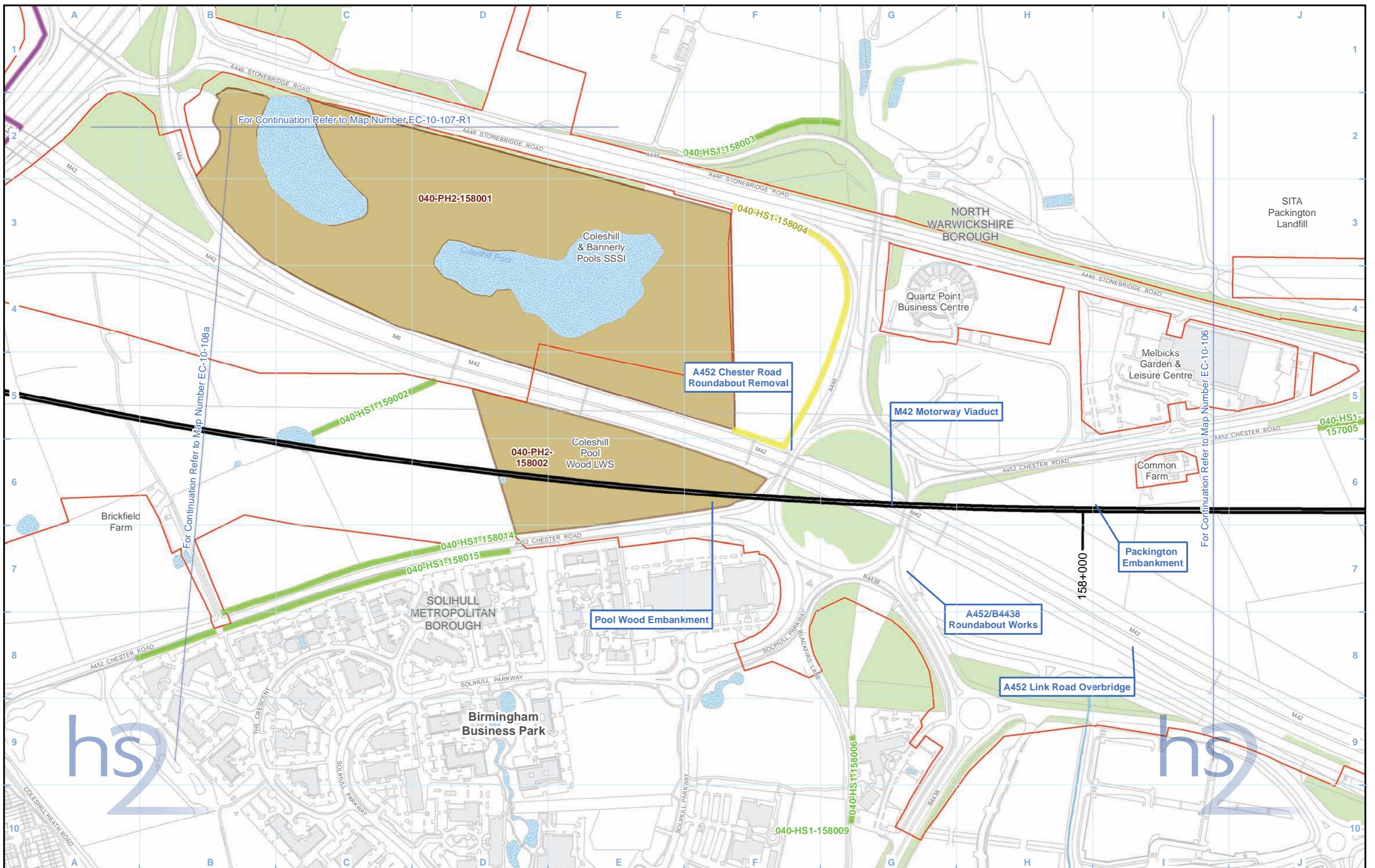
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Scale at A3: 1:5,000

0 50 100 150 200 Metres

Doc Number: C254-ARP-EV-MAP-040-071306-P06.00

Date: 28/10/13



Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- District/Borough boundary
- Watercourse
- Water body
- Land potentially required during construction
- National Vegetation Classification survey
- Ditch vegetation survey
- Woodland (verified by survey)
- 'Important' hedgerow confirmed by field survey
- Possible 'Important' hedgerow - no access available for survey
- River corridor survey extent
- River habitat survey extent

Map Number	EC-10-107
Map Name	Phase 2 Habitat Survey
Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood	
Doc Number: C254-ARP-EV-MAP-040-071107-P06.00 Date: 28/10/13	



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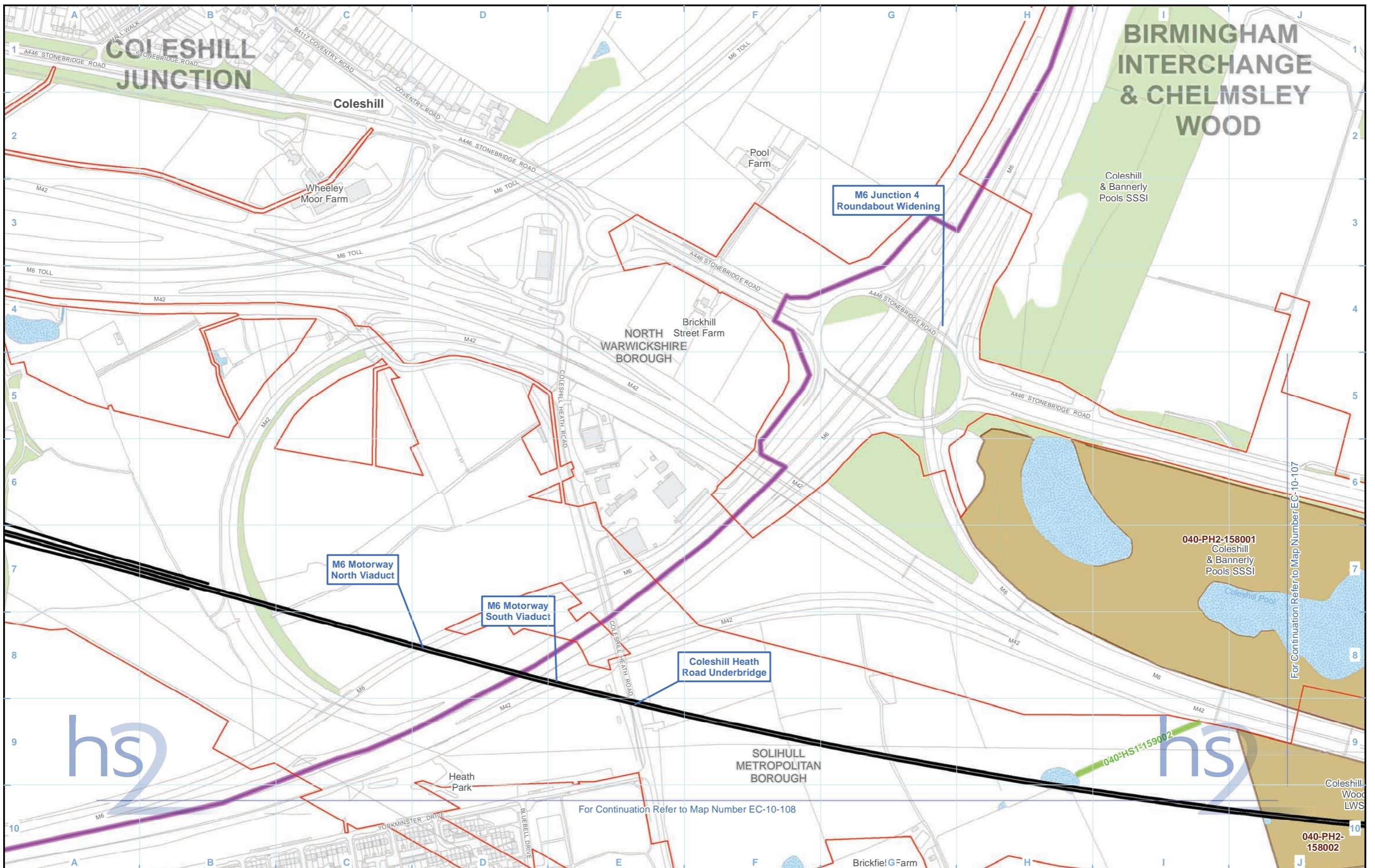


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0 50 100 150 200 Metres

Date: 28/10/13



Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- District/Borough boundary
- Watercourse
- Water body
- Woodland (verified by survey)
- National Vegetation Classification survey
- Ditch vegetation survey
- 'Important' hedgerow confirmed by field survey
- Possible 'Important' hedgerow - no access available for survey
- River corridor survey extent
- River habitat survey extent

Map Number	EC-10-107-R1	hs
Map Name	Phase 2 Habitat Survey	
Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood		
Doc Number:	C254-ARP-EV-MAP-040-071207-P06.00	
Date:	29/10/13	

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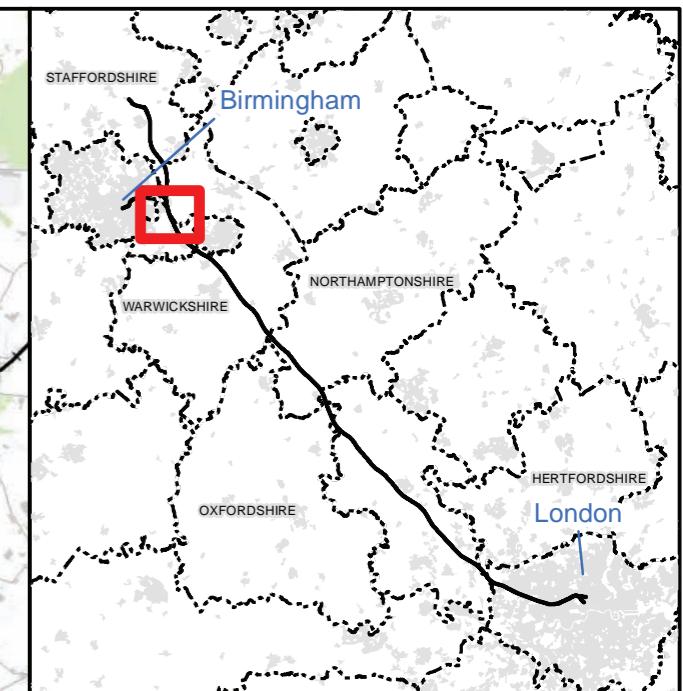
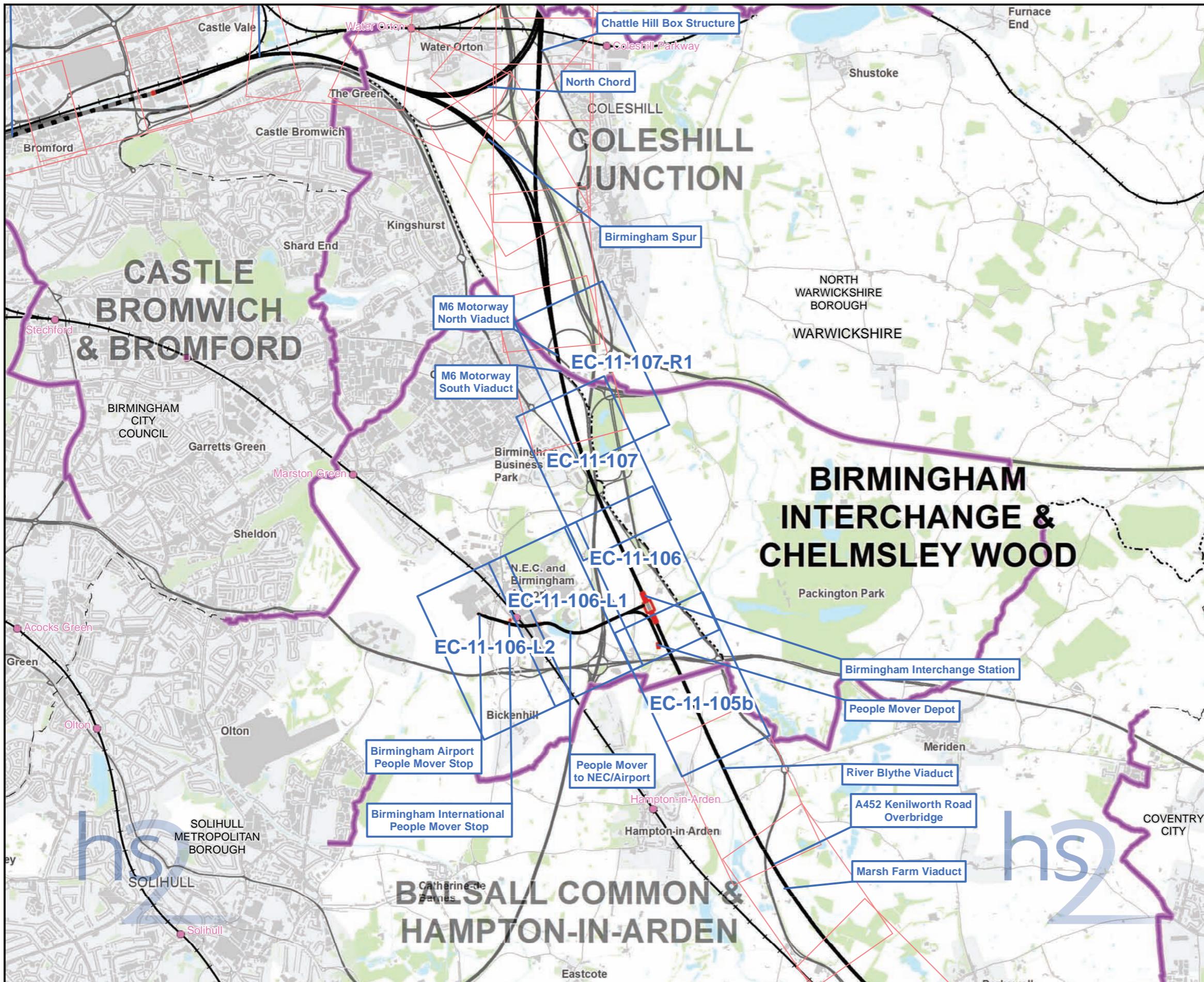
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Metres



LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

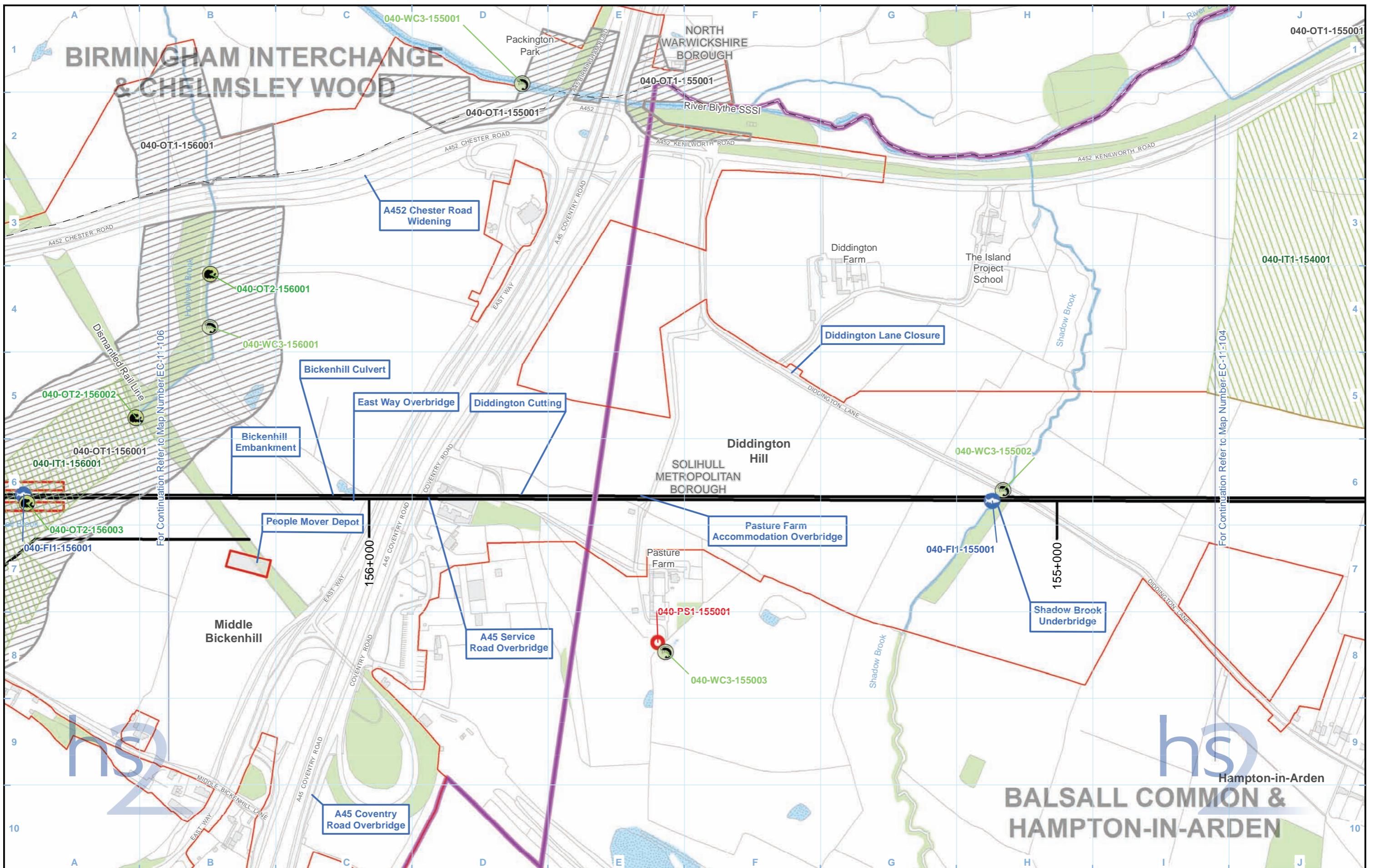
EC-11 – Other Protected and Notable Species (1)



Main Map Legend		Map Sheets	
Route in tunnel		Map sheets included in this community forum	
Route on surface		Map sheets not included in this community forum	
Depot, station, headhouse or portal building			
Community forum boundary			
Existing railway station			
County boundary			
District/Borough boundary			

Map Number	EC-11-INDEX-CFA24
Map Name	Index Map of: Other Protected and Notable Species (1)
Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood	

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Doc Number: C254-ARP-EV-MAP-040-572002-P06.00
Date: 25/10/13



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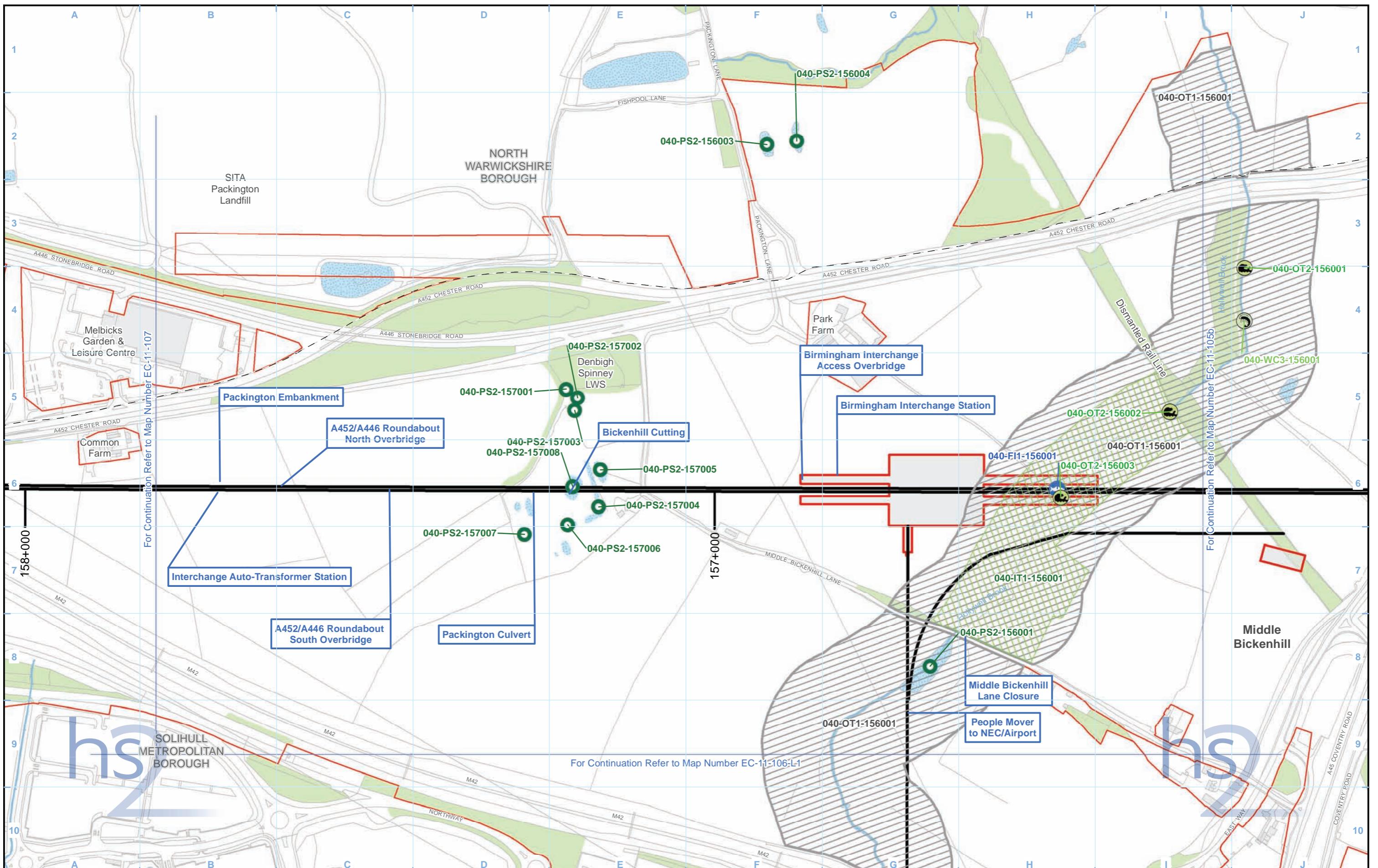
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Scale at A3: 1:5,000

0 50 100 150 200 Metres

Doc Number: C254-ARP-EV-MAP-040-072205-P06.00

Date: 28/10/13



Map Number EC-11-106

Other Protected and Notable Species (1)

Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood

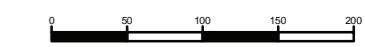


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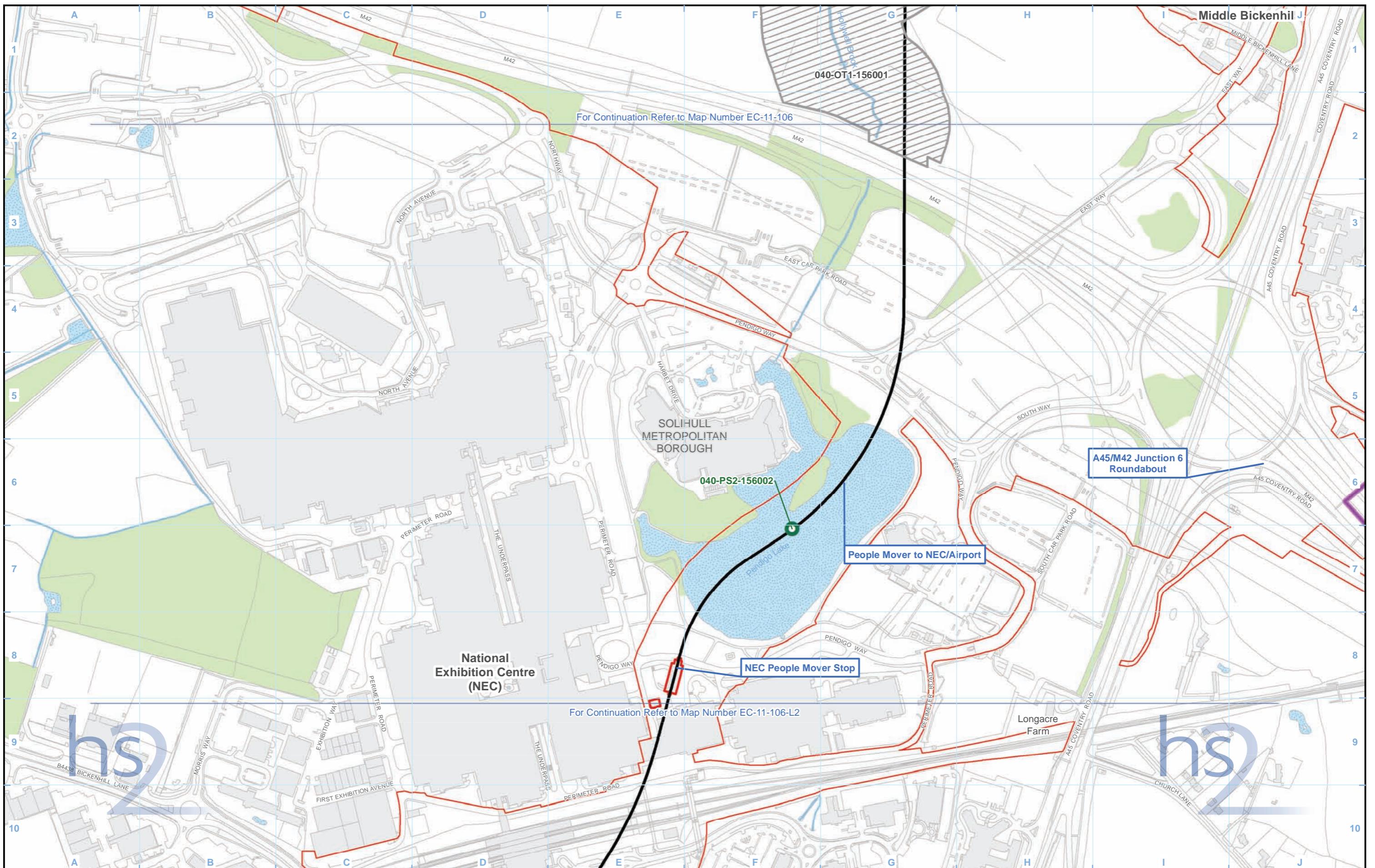
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Scale at A3: 1:5,000



Doc Number: C254-ARP-EV-MAP-040-072106-P06.00

Date: 28/10/13



Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- District/Borough boundary
- Watercourse
- Water body
- Woodland (verified by survey)
- Active otter holt
- Potential otter holt
- Otter terrestrial habitat

Otter:

- White clawed crayfish:
- Manual search and/or trapping conducted and presence confirmed
- Manual search and/or trapping conducted and assumed absent
- Site identified as potentially suitable but no access available

Pond survey:

- Pond survey – national pond survey
- Pond survey – PSYM
- Pond survey – rapid assessment method

Fish:

- Fish survey location

Terrestrial invertebrate:

- Terrestrial invertebrate survey extent

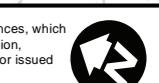
Map Number EC-11-106-L1
Map Name Other Protected and Notable Species (1)
Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood



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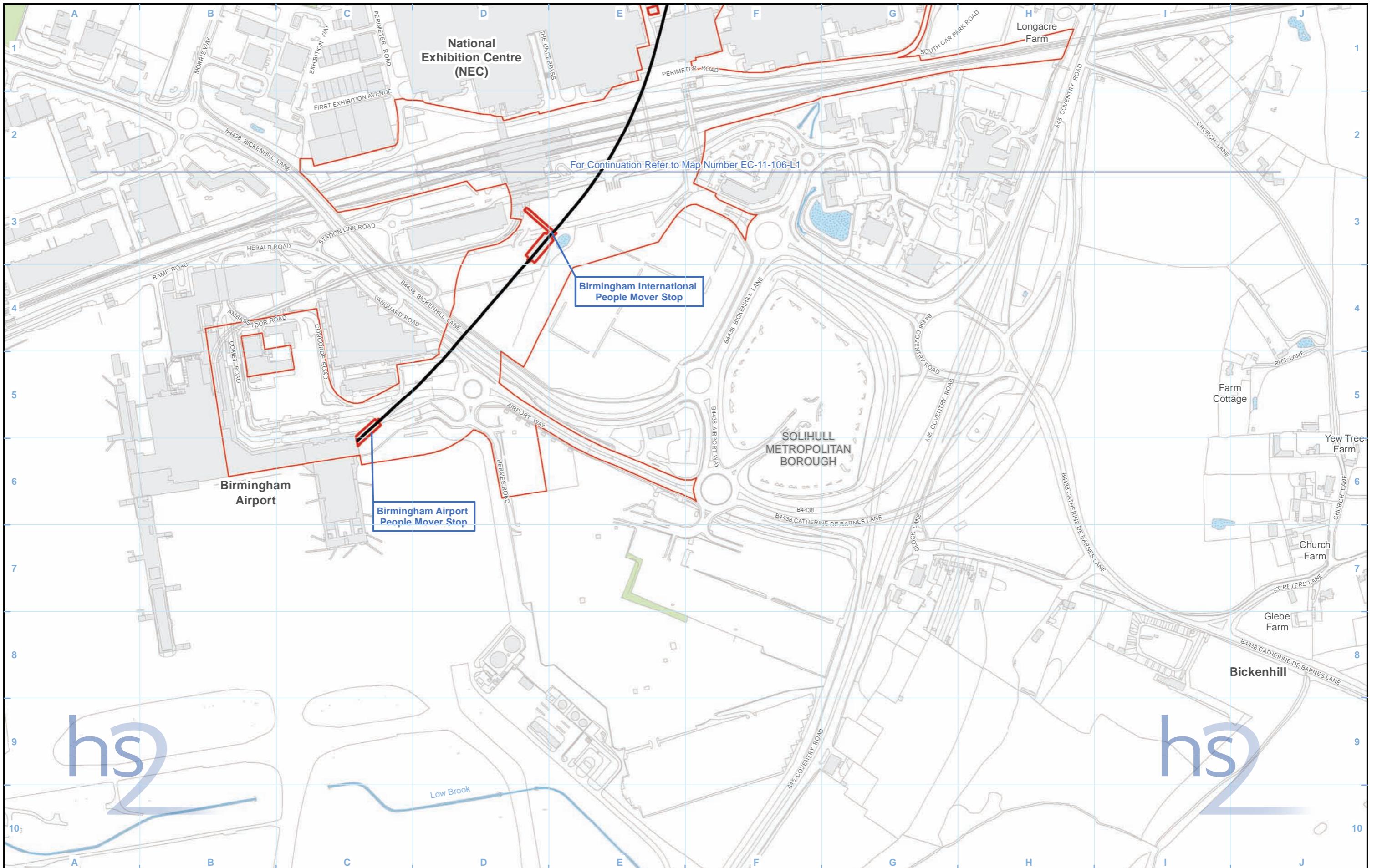
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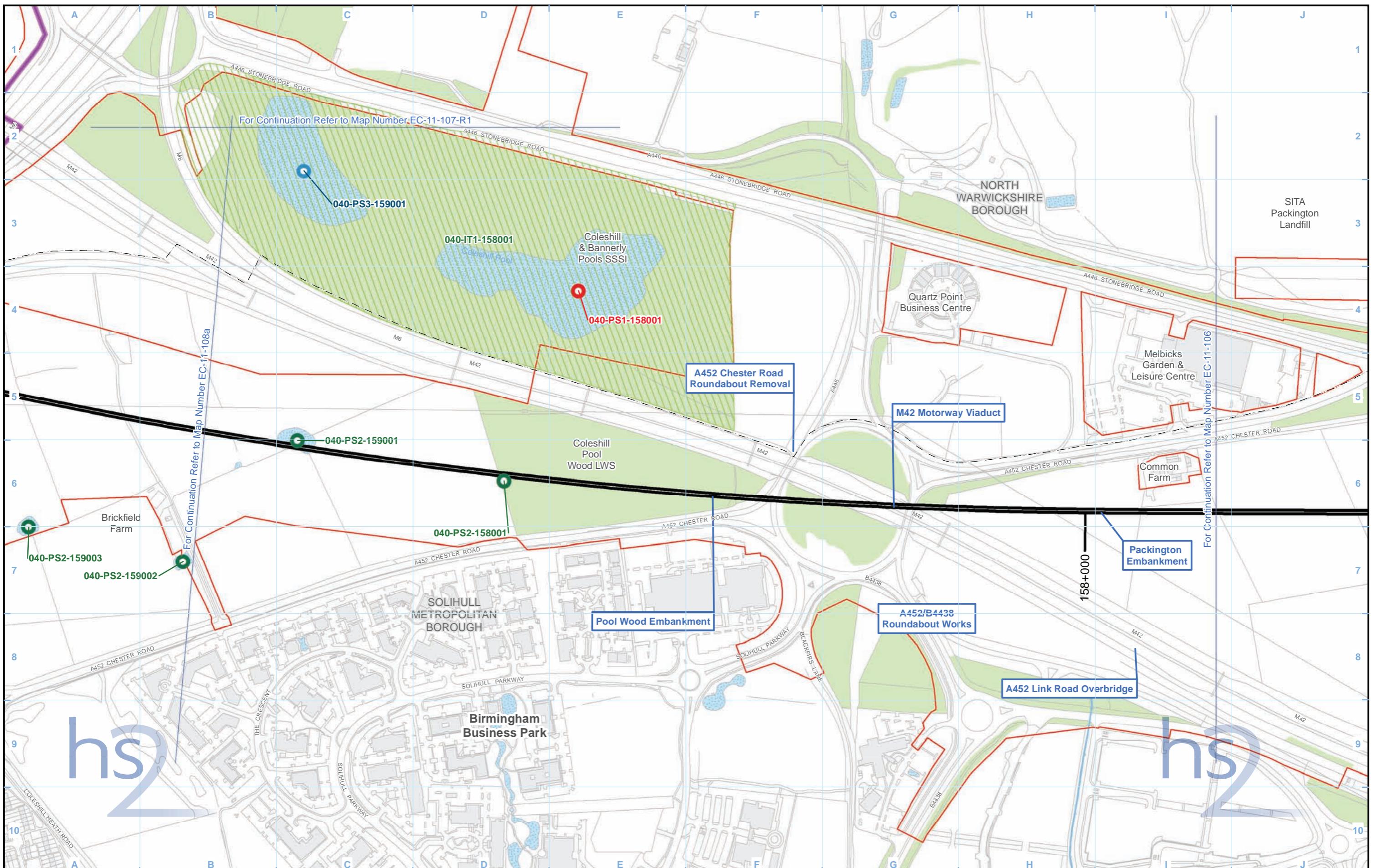


Date: 28/10/13

Doc Number: C254-ARP-EV-MAP-040-072206-P06.00



Map Number	EC-11-106-L2	HS2 Ltd accept no responsibility for any circumstances, which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued incomplete in any way.
Map Name	Other Protected and Notable Species (1)	
	Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood	Registered in England. Registration number 06791686. Registered office: Eland House, Bressenden Place, London SW1E 5DU. © Crown copyright and database rights 2013. Ordnance Survey Licence Number 100049190.
Doc Number	C254-ARP-EV-MAP-040-072306-P06.00	Scale at A3: 1:5,000 0 50 100 150 200 Metres Date: 28/10/13



Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- District/Borough boundary
- Watercourse
- Water body
- Woodland (verified by survey)
- Otter: Active otter holt
- Potential otter holt
- Otter terrestrial habitat
- White clawed crayfish: Manual search and/or trapping conducted and presence confirmed
- Manual search and/or trapping conducted and assumed absent
- Site identified as potentially suitable but no access available
- Pond survey: Pond survey – national pond survey
- Pond survey – PSYM
- Pond survey – rapid assessment method
- Fish: Fish survey location
- Terrestrial invertebrate: Terrestrial invertebrate survey extent

Map Number	EC-11-107
Map Name	Other Protected and Notable Species (1)
Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood	
Doc Number: C254-ARP-EV-MAP-040-072107-P06.00 Date: 28/10/13	

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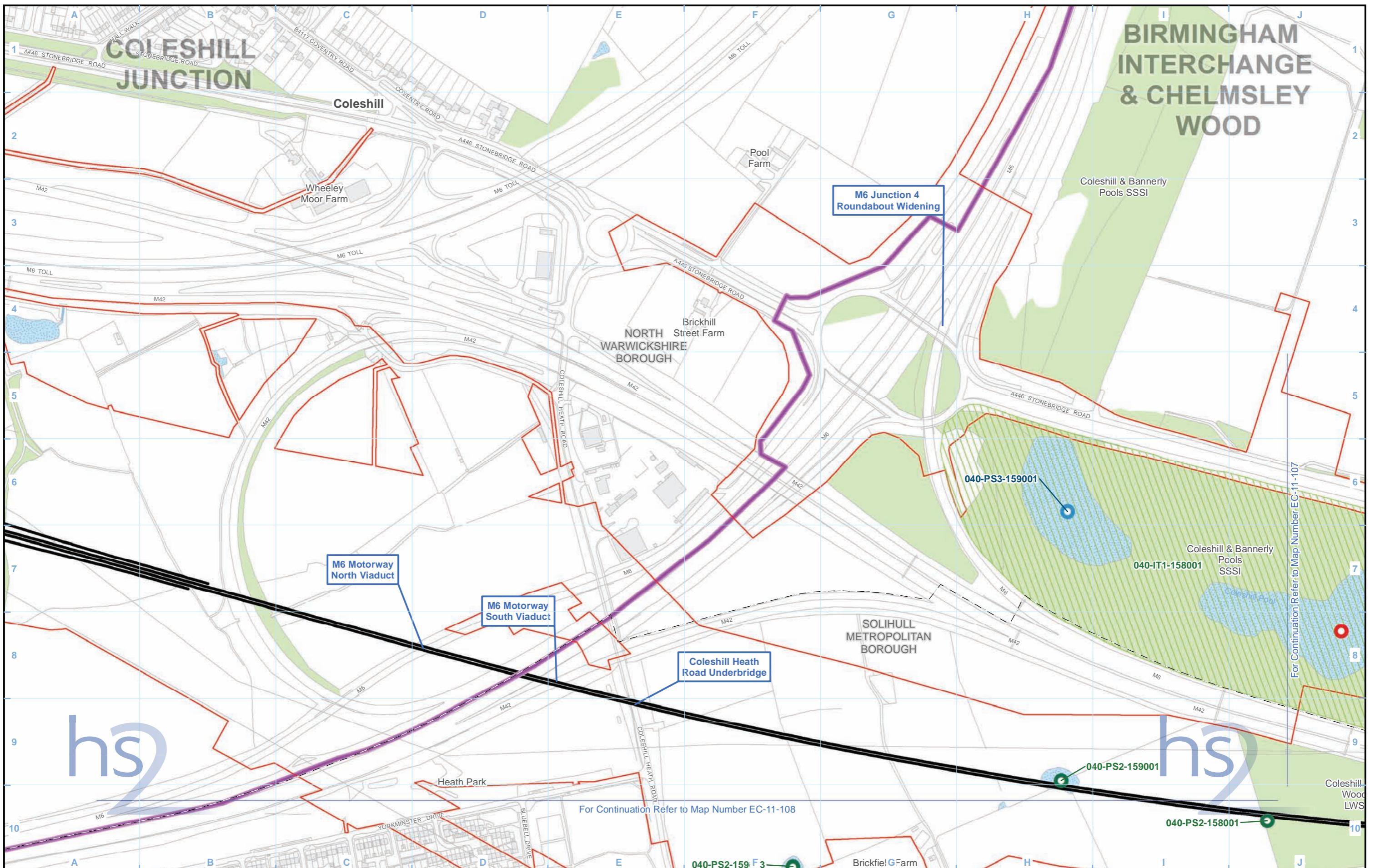


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0 50 100 150 200 Metres

Date: 28/10/13



Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- District/Borough boundary
- Watercourse
- Water body
- Woodland (verified by survey)
- Otter:
- Active otter holt
- Potential otter holt
- Otter terrestrial habitat
- White clawed crayfish:
- Manual search and/or trapping conducted and presence confirmed
- Manual search and/or trapping conducted and assumed absent
- Site identified as potentially suitable but no access available
- Pond survey:
- Pond survey – national pond survey
- Pond survey – PSYM
- Pond survey – rapid assessment method
- Fish:
- Fish survey location
- Terrestrial invertebrate:
- Terrestrial invertebrate survey extent

Map Number	EC-11-107-R1
Map Name	Other Protected and Notable Species (1)
Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood	

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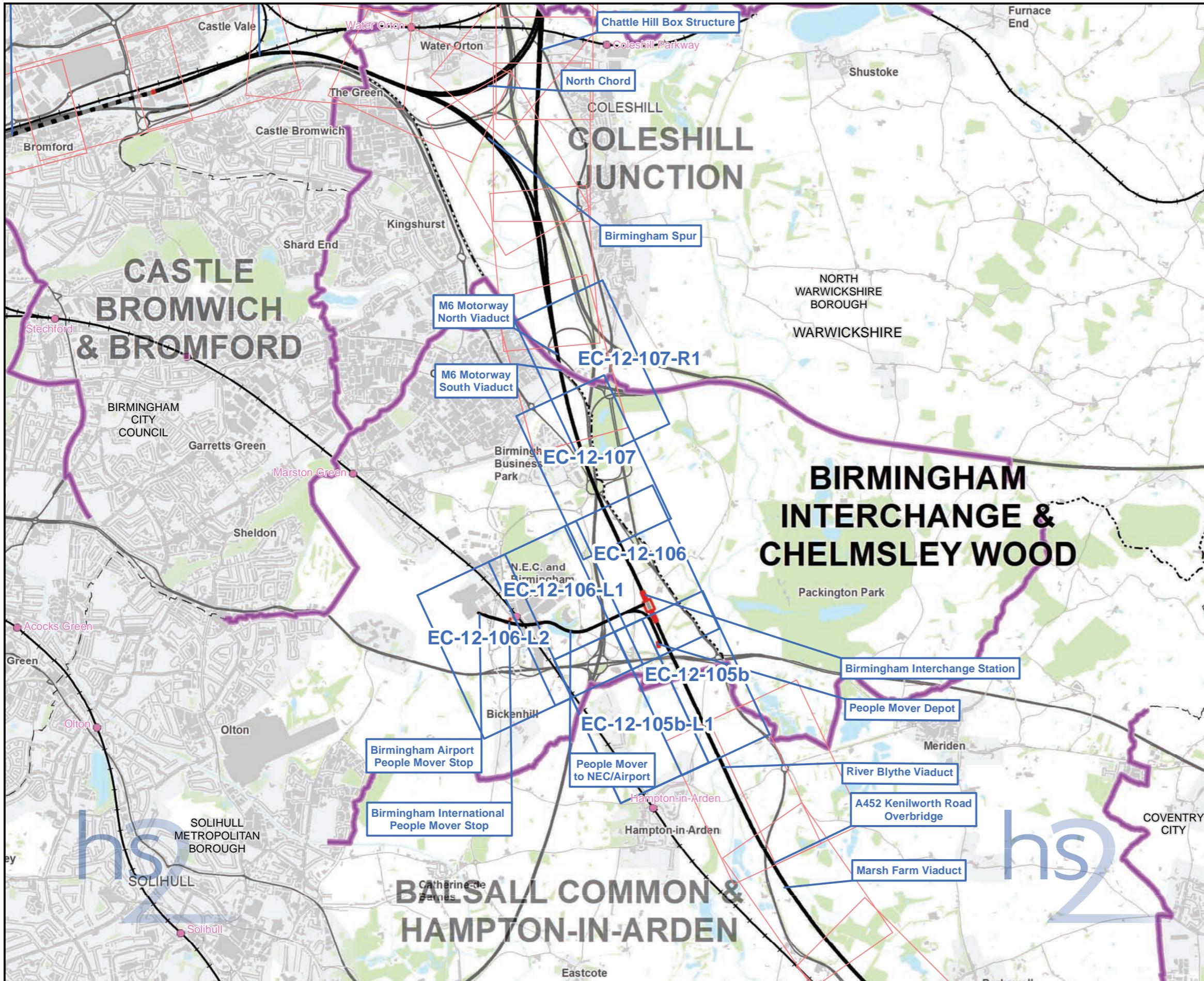
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Date: 28/10/13



LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

EC-12 – Other Protected and Notable Species (2)



Main Map Legend

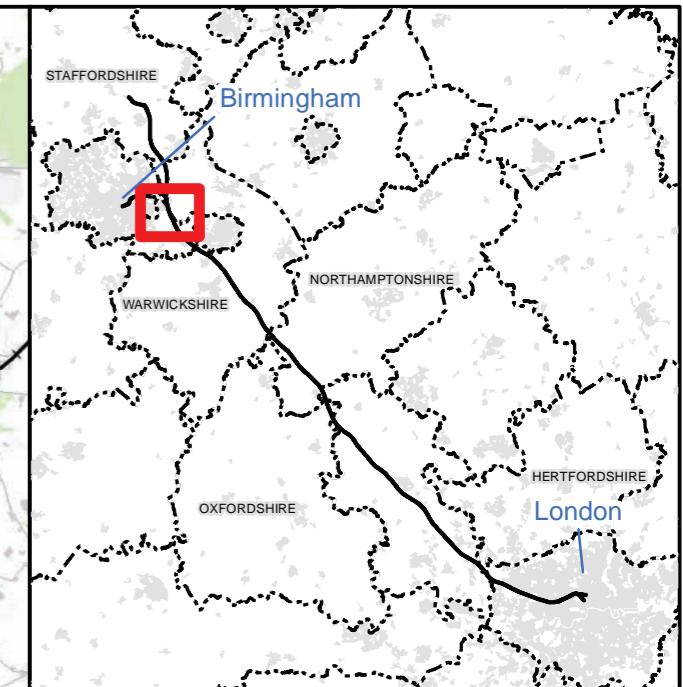
- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community forum boundary
- Existing railway station
- County boundary
- District/Borough boundary

- Map sheets included in this community forum
- Map sheets not included in this community forum

Map Number EC-12-INDEX-CFA24

Map Name Index Map of:
Other Protected and Notable Species (2)

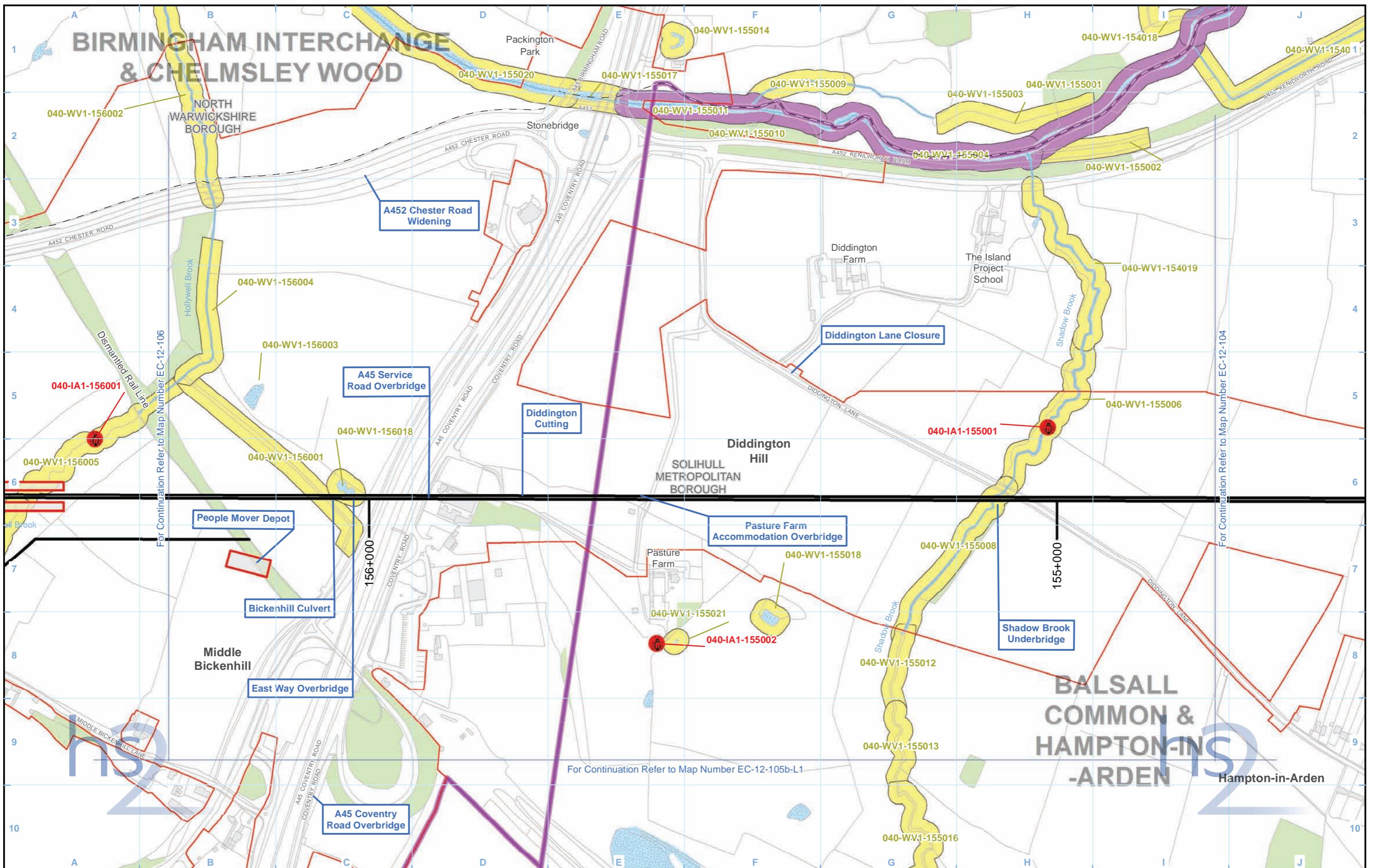
Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood



Map Series Information:

This map series shows the extent of protected species surveys conducted to inform the Environmental Statement.

Note: Not all data layers in the legend are represented on every map.



Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- District/Borough boundary

Aquatic invertebrate:
Aquatic invertebrate survey location

Water vole:
Water vole survey undertaken – presence confirmed
Water vole survey undertaken – assumed absent
Watercourse potentially suitable for water vole - no or limited access for survey

Dormouse:
Nest tube survey and/or presence confirmed
Water vole survey undertaken and presence confirmed
Nest tube survey and/or nut search conducted and no signs of dormouse identified
Site identified as potentially suitable for dormouse but no access available

Map Number
EC-12-105b

Map Name
Other Protected and Notable Species (2)

Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood



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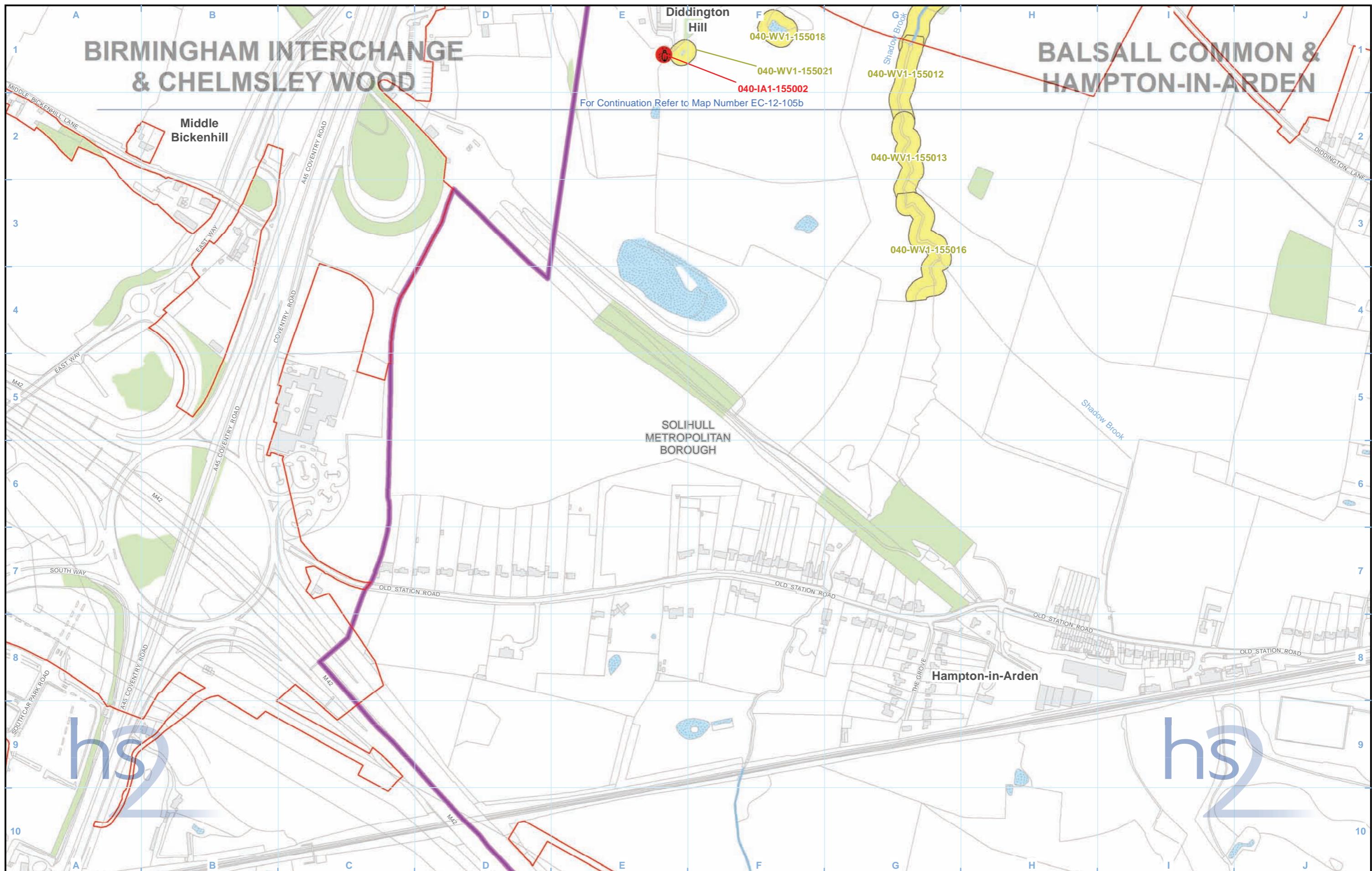
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Date: 28/10/13

Doc Number: C254-ARP-EV-MAP-040-073205-P06.00

BIRMINGHAM INTERCHANGE & CHELMSLEY WOOD

BALSALL COMMON & HAMPTON-IN-ARDEN



Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- District/Borough boundary
- Watercourse
- Water body
- Woodland (verified by survey)

Aquatic invertebrate:
Aquatic invertebrate survey location

Water vole:
Water vole survey undertaken – presence confirmed

Water vole:
Water vole survey undertaken – assumed absent

Watercourse potentially suitable
for water vole - no or limited
access for survey

Dormouse:

Nest tube survey and/or
nut search conducted and presence confirmed

Nest tube survey and/or nut
search conducted and no signs
of dormouse identified

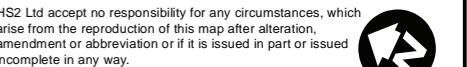
Site identified as potentially
suitable for dormouse but
no access available

Map Number
EC-12-105b-L1

Map Name
Other Protected and Notable Species (2)

Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood

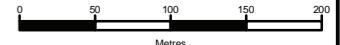
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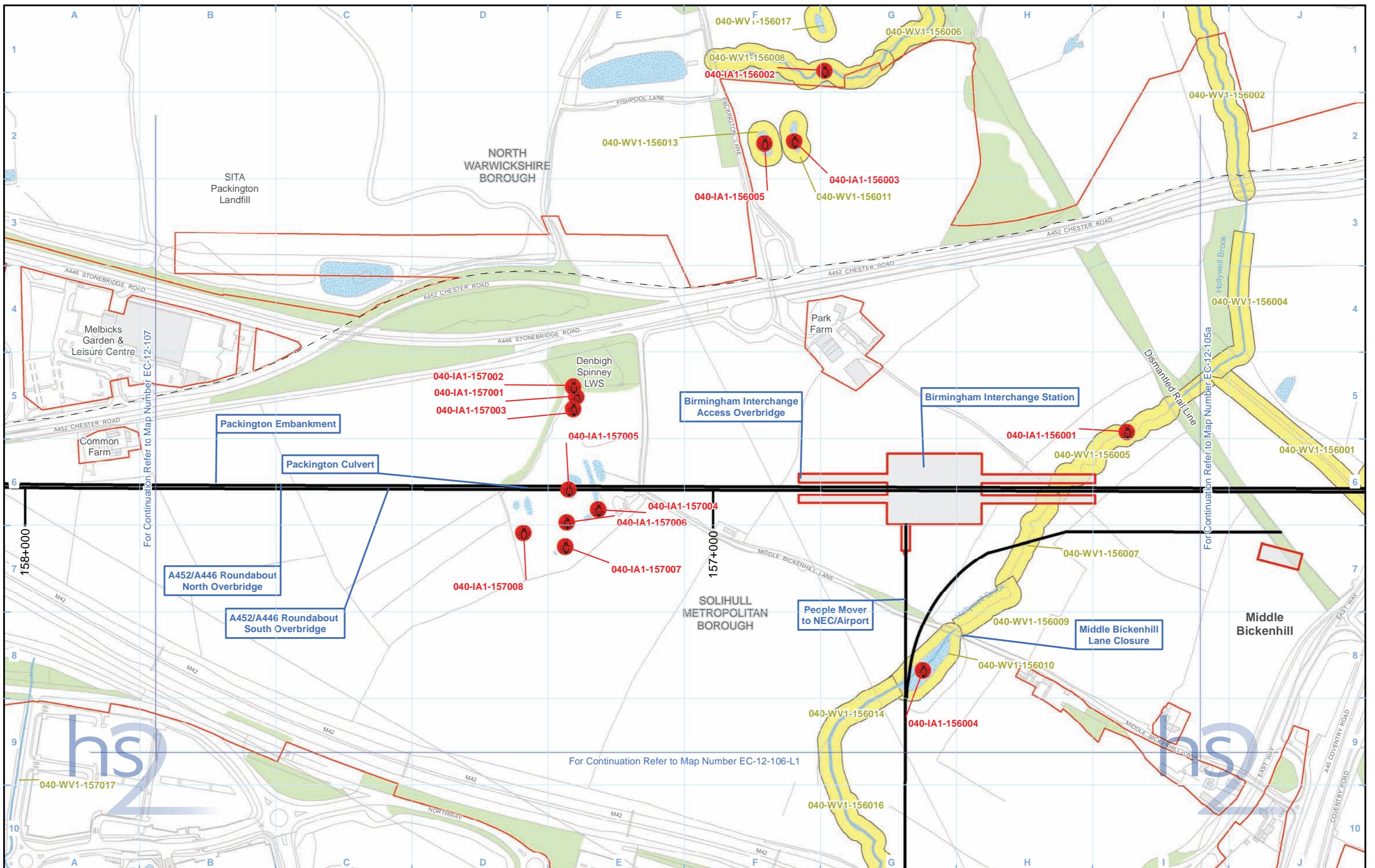
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Date: 28/10/13



Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- District/Borough boundary
- Watercourse
- Water body
- Woodland (verified by survey)
- Aquatic invertebrate survey location
- Water vole survey undertaken – presence confirmed
- Water vole survey undertaken – assumed absent
- Watercourse potentially suitable for water vole - no or limited access for survey
- Dormouse: Nest tube survey and/or nut search conducted and presence confirmed
- Nest tube survey and/or nut search conducted and no signs of dormouse identified
- Site identified as potentially suitable for dormouse but no access available

Aquatic invertebrate:
● Aquatic invertebrate survey location

Water vole:
● Water vole survey undertaken – presence confirmed

● Water vole survey undertaken – assumed absent

● Watercourse potentially suitable for water vole - no or limited access for survey

Dormouse:

● Nest tube survey and/or nut search conducted and presence confirmed

● Nest tube survey and/or nut search conducted and no signs of dormouse identified

● Site identified as potentially suitable for dormouse but no access available

For Continuation Refer to Map Number EC-12-106-L1

Map Number
EC-12-106

Map Name
Other Protected and Notable Species (2)

Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood



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Scale at A3: 1:5,000

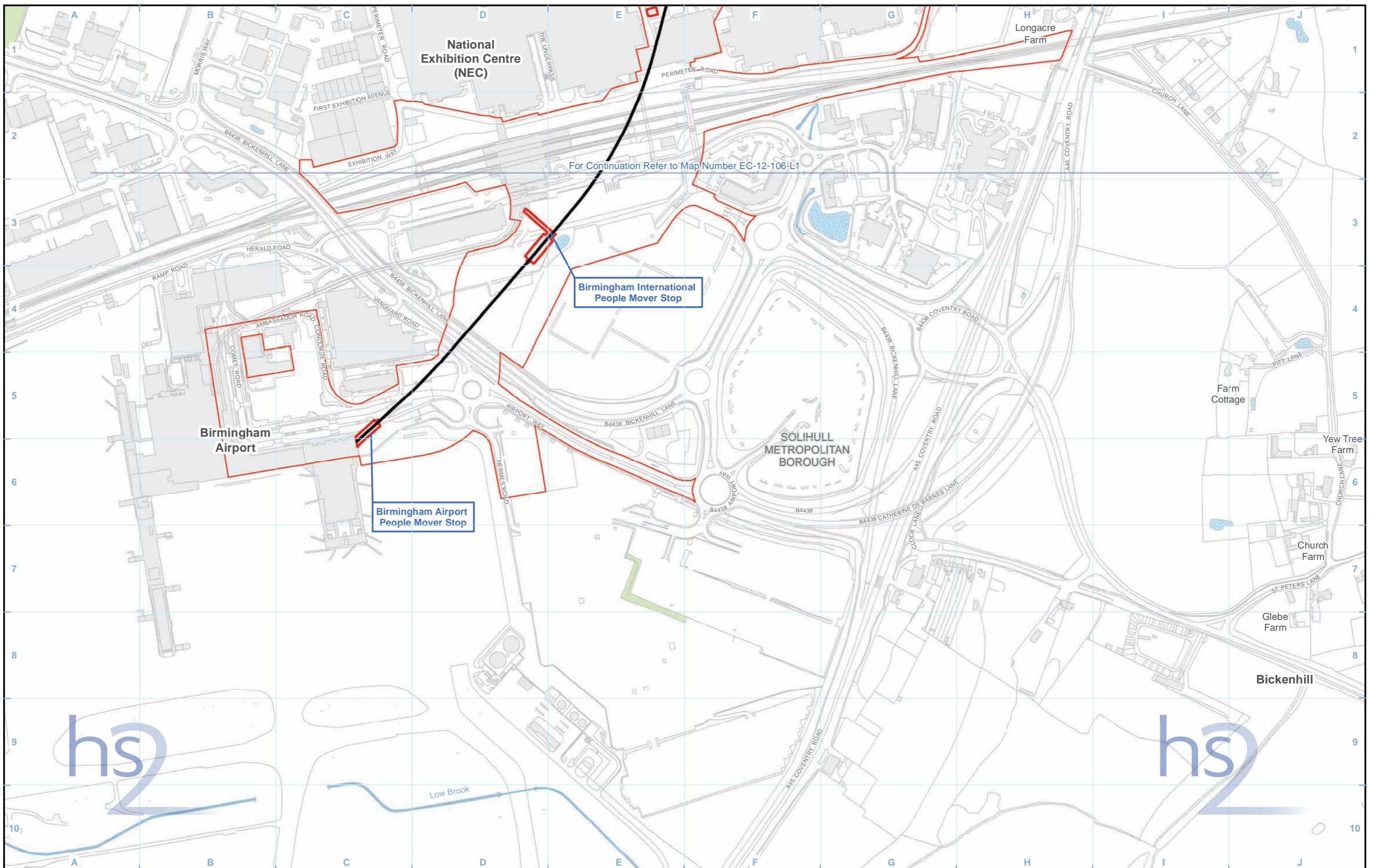
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Metres

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Doc Number: C254-ARP-EV-MAP-040-073106-P06.00

Date: 28/10/13



Legend:

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- District/Borough boundary
- Watercourse
- Water body
- Woodland (verified by survey)
- Aquatic invertebrate: Aquatic invertebrate survey location
- Water vole: Water vole survey undertaken – presence confirmed
- Water vole survey undertaken – assumed absent
- Watercourse potentially suitable for water vole - no or limited access for survey
- Dormouse: Nest tube survey and/or nut search conducted and presence confirmed
- Nest tube survey and/or nut search conducted and no signs of dormouse identified
- Site identified as potentially suitable for dormouse but no access available

Map Number: EC-12-106-L2

Map Name: Other Protected and Notable Species (2)

Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood

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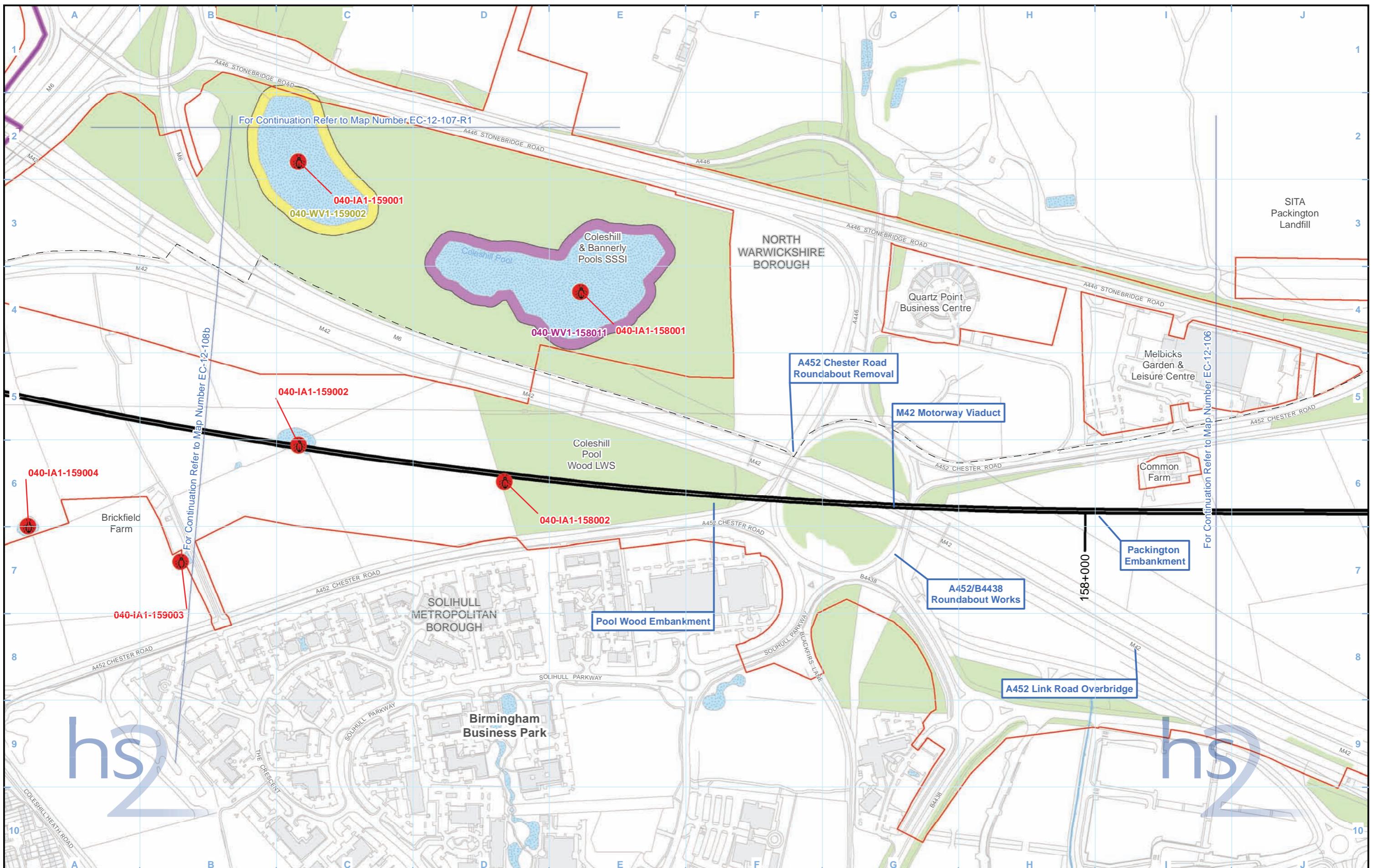
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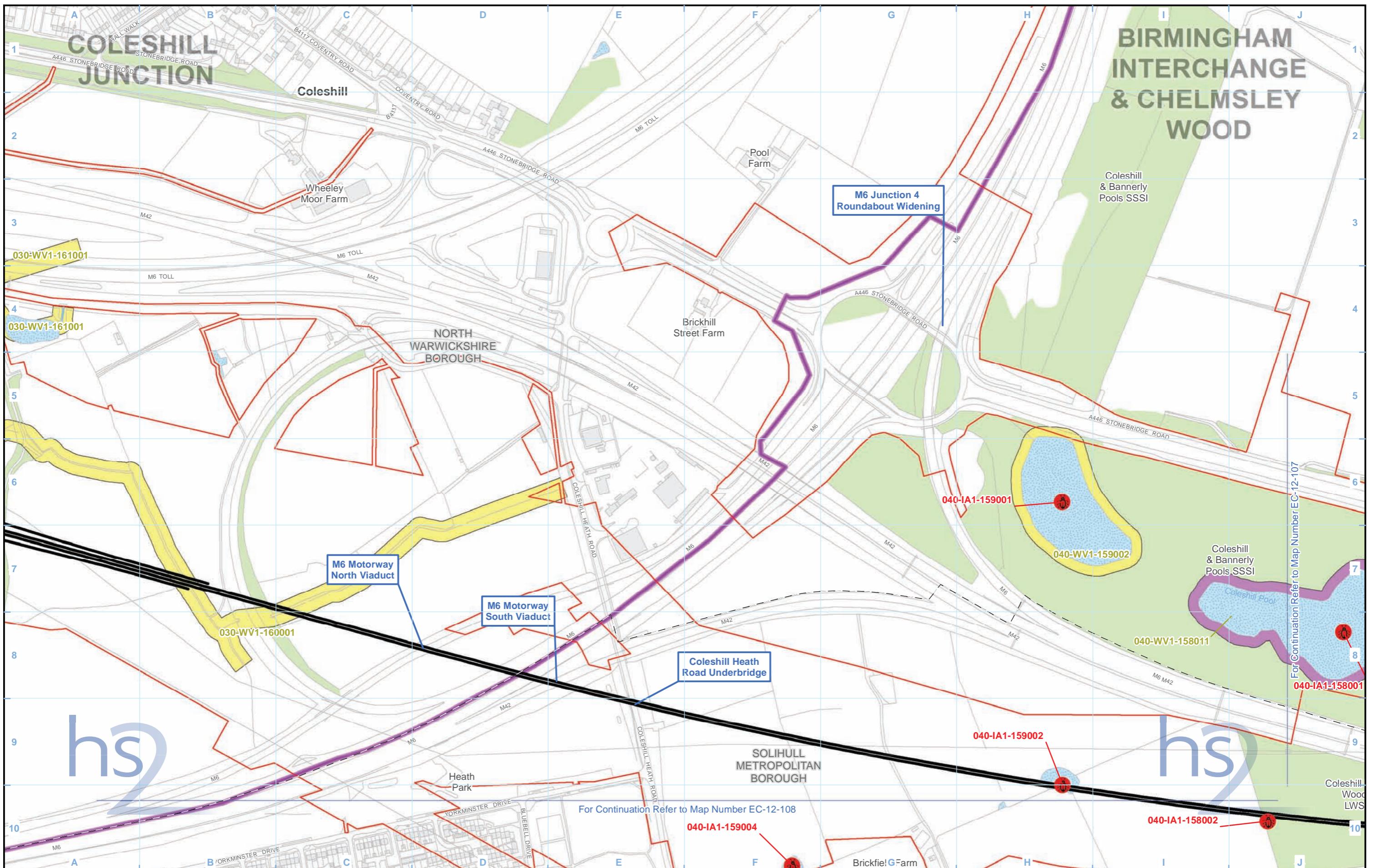
Scale at A3: 1:5,000

0 50 100 150 200 Metres

Date: 28/10/13



		Map Number		EC-12-107	hs	
Map Name		Other Protected and Notable Species (2)				HS2 Ltd accept no responsibility for any circumstances, which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued incomplete in any way.
Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood						Registered in England. Registration number 06791686. Registered office: Eland House, Bressenden Place, London SW1E 5DU.



Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community forum boundary
- District/Borough boundary
- Watercourse
- Water body
- Woodland (verified by survey)
- Aquatic invertebrate: Aquatic invertebrate survey location
- Water vole: Water vole survey undertaken – presence confirmed
 Water vole survey undertaken – assumed absent
 Watercourse potentially suitable for water vole - no or limited access for survey
- Dormouse: Nest tube survey and/or nut search conducted and presence confirmed
 Nest tube survey and/or nut search conducted and no signs of dormouse identified
 Site identified as potentially suitable for dormouse but no access available

Map Number	EC-12-107-R1
Map Name	Other Protected and Notable Species (2)
Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood	
Doc Number: C254-ARP-EV-MAP-040-073207-P06.00 Date: 28/10/13	

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0 50 100 150 200 Metres

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